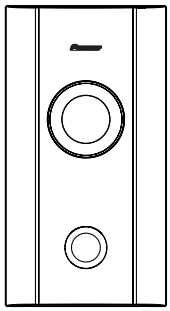
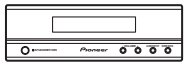
Pioneer *sound.vision.soul*

Service Manual





SX-SW100

ORDER NO.
RRV3241

AUDIO MULTI-CHANNEL RECEIVER SUBWOOFER

SX-SW100

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
SX-SW100	TDLPWXCN	AC 110-240V	

For details, refer to "Important Check Points for Good Servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
ⓒ**PIONEER CORPORATION 2005**

T-ZZK AUG. 2005 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

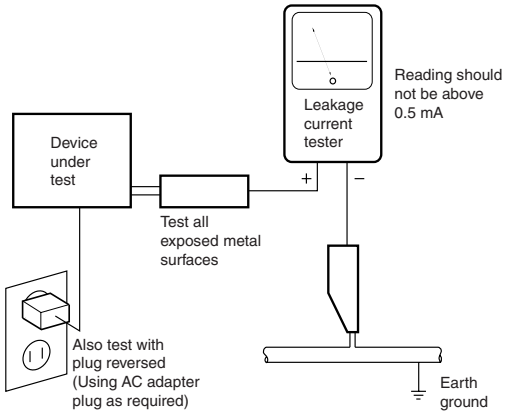
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SPECIFICATIONS

SX-SW100

- **Amplifier section**

RMS Power Output :

Front, Center, Surround . . . . . .110 W per channel (1 kHz, 10 % T.H.D., 3 Ω)

Subwoofer . . . . . 70 W (200 Hz, 10 % T.H.D., 3 Ω)

Front, Center, Surround. . . . . 60 W per channel (1 kHz, 10 % T.H.D., 6 Ω)

Subwoofer. . . . . 60 W (200 Hz, 10 % T.H.D., 6 Ω)

- **FM tuner section**

Frequency range. . . . . 87.5 MHz to 108 MHz

Antenna. . . . . 75 Ω, unbalanced

- **AM tuner section**

Frequency range

With 9kHz step . . . . . 531 kHz to 1,602 kHz

With 10kHz step . . . . . 530 kHz to 1,700 kHz

Antenna. . . . . Loop antenna

- **Miscellaneous**

Power requirements. . . . . AC 110-240 V, 50/60 Hz

Power consumption . . . . . 51 W

Power consumption in standby . . . . . 0.4 W

Dimensions . . . . . 200 (W) x 375 (H) x 437 (D) mm

Weight . . . . . 9.0 kg

- **Accessories**

Remote control 1

AA/R6 dry cell batteries. 2

Display unit 1

Display cable 1

Optical cable 1

Coaxial cable 1

Power cord 2

AM loop antenna 1

FM wire antenna 1

Operating instructions

- **Subwoofer section**

Enclosure . . . . . Bass-reflex floor type
System . . . . . 16 cm 1-way system
Speaker . . . . . .16 cm cone type
Nominal impedance 6Ω
Frequency range . . . . . 25 Hz to 1.0 kHz
Maximum Input Power . . . . . 60 W

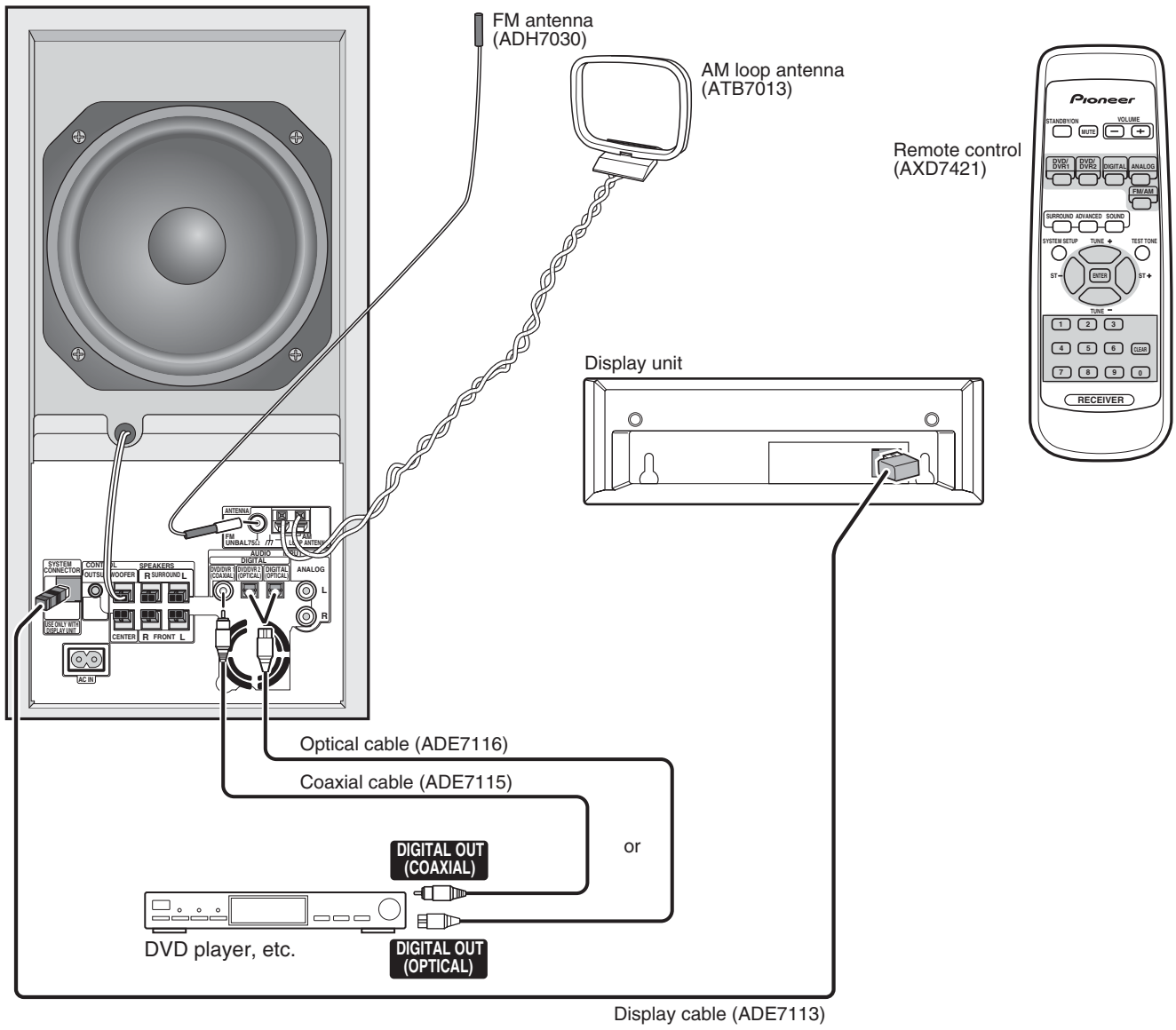
Note

- Specifications and design subject to possible modification without notice, due to improvements.

Manufactured under license from Dolby Laboratories."Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.

"DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

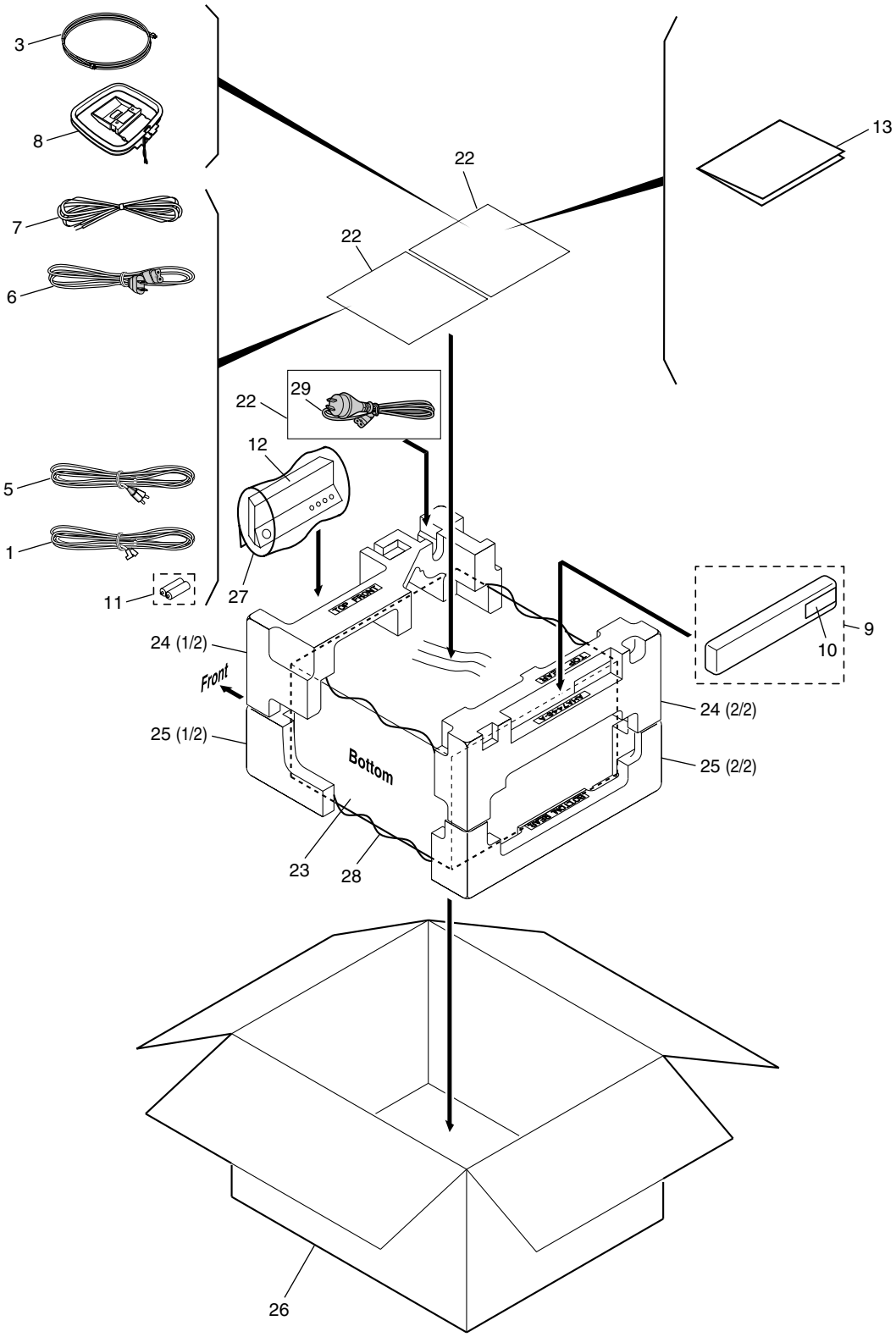
Receiver subwoofer (SX-SW100)



2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

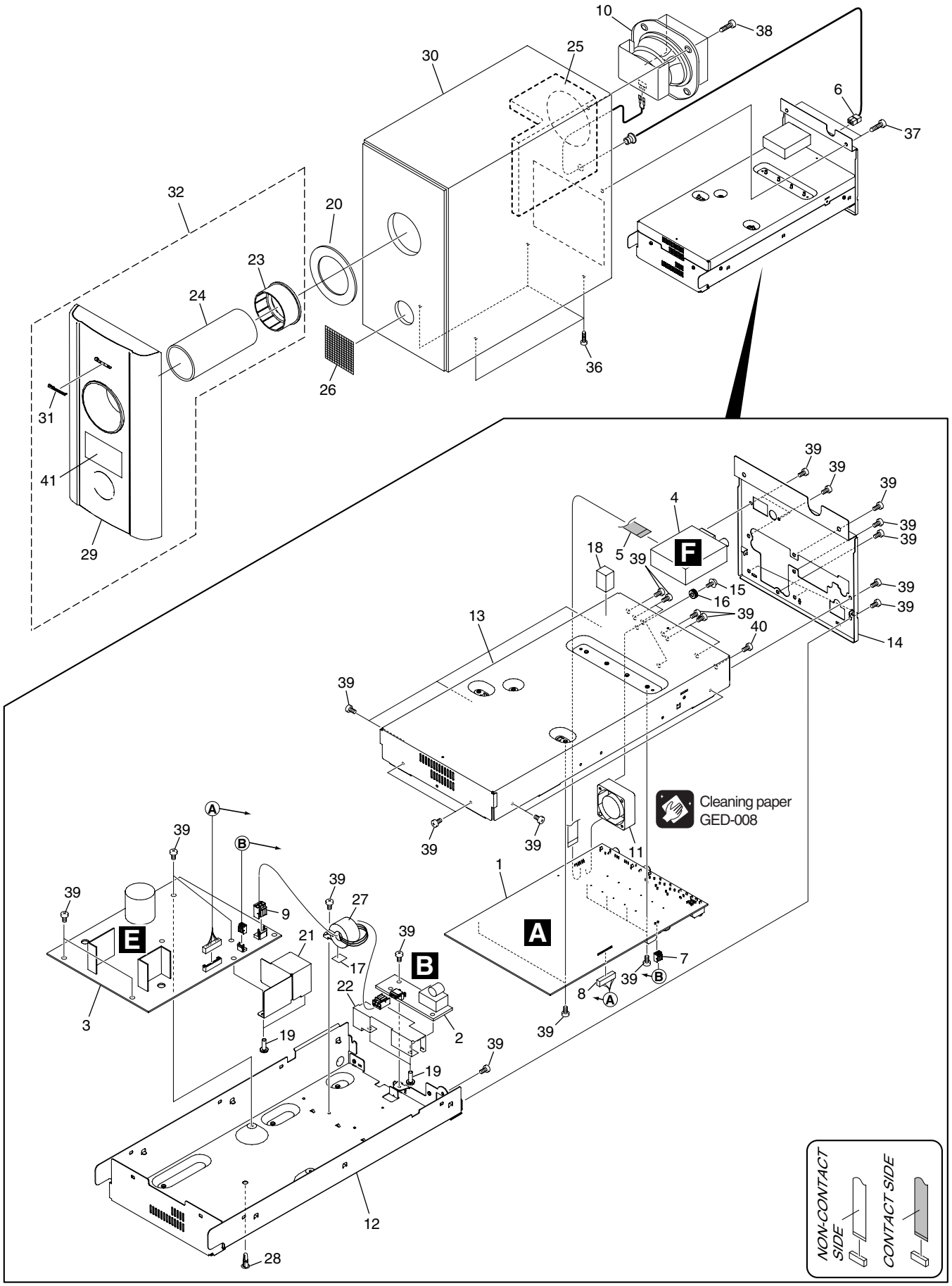
2.1 PACKING



(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Display Cable	ADE7113
	2	••••••	
	3	Optical Cable	ADE7116
	4	••••••	
	5	Coaxial Cable	ADE7115
⚠	6	AC Power Cord	ADG1154
	7	FM Wire Antenna	ADH7030
	8	AM Loop Antenna	ATB7013
	9	Remote Control	AXD7421
	10	Battery Cover	AZA7378
NSP	11	Dry Cell Battery (R6P, AA)	VEM1010
	12	DISPLAY Unit	AXX7204
	13	Operating Instructions (Enslish, Chinese)	ARC7643
	14	••••••	
	15	••••••	
	16	••••••	
	17	••••••	
	18	••••••	
	19	••••••	
	20	••••••	
	21	••••••	
NSP	22	Polyethylene Bag	Z21-038
NSP	23	Polyethylene Bag	AHG7126
	24	Pad T	AHA7448
	25	Pad B	AHA7449
	26	Packing Case SW	AHD8394
	27	Packing Sheet	AHG7125
	28	Packing Sheet L	AHG7128
⚠	29	AC Power Cord	ADG7099

2.2 EXTERIOR


10
38
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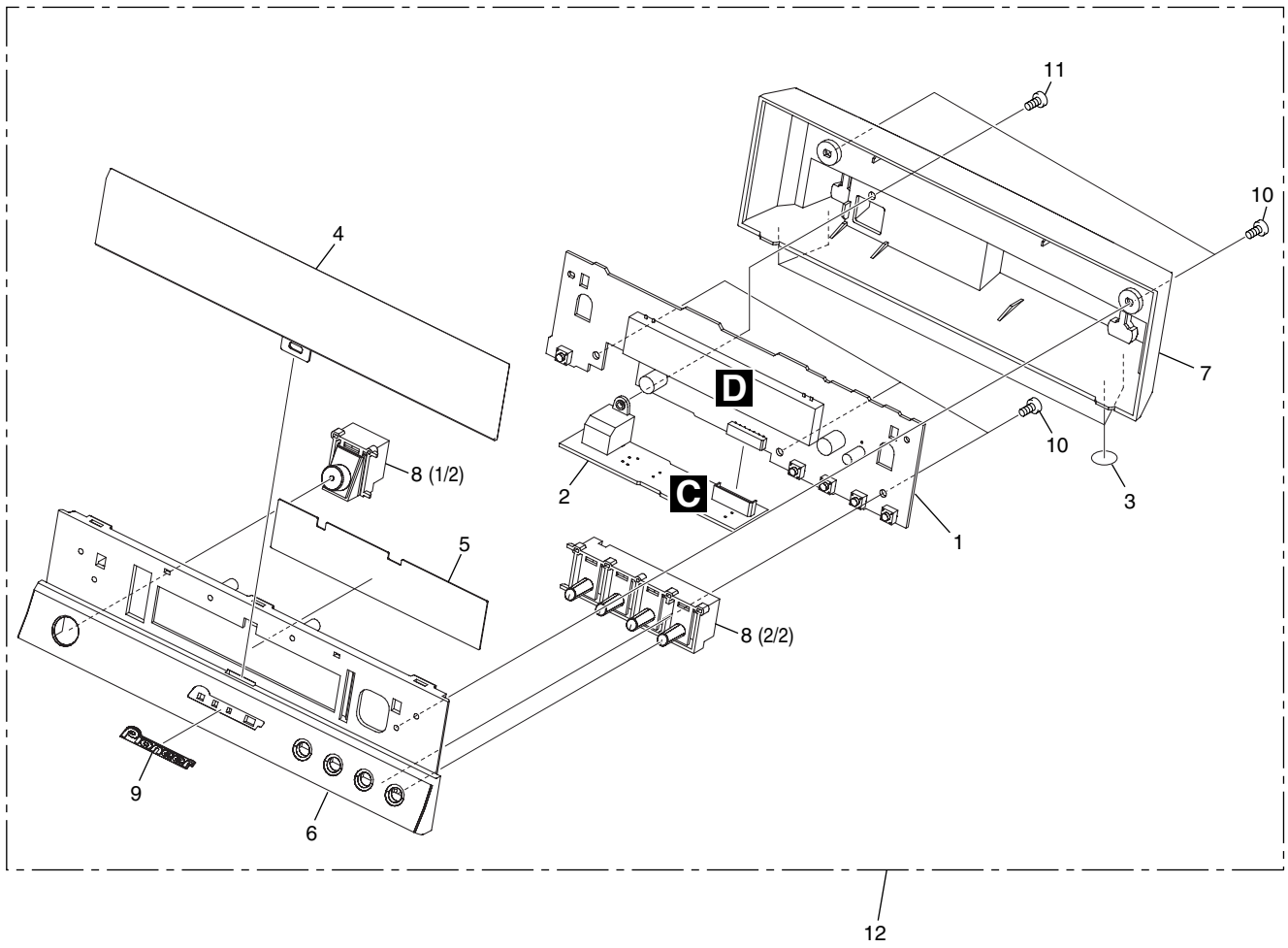
6
37
32
20
23
24
36
26
31
41
29
39
4
5
18
F
15
16
40
14
13
Cleaning paper
GED-008
11
1
A
7
8
E
9
21
27
17
B
22
2
19
12
28
3
NON-CONTACT SIDE
CONTACT SIDE

(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	AWK7885
	2	AC INLET Assy	AWU8273
⚠	3	POWER SUPPLY Unit	AWR7037
	4	FM/AM TUNER Unit	AXX7173
	5	11P Flexible Cable	ADD7506
	6	Connecting Cord	ADX7484
	7	2P Lead with Housing	ADX7485
	8	11P Lead with Housing	ADX7486
	9	2P Lead with Housing	ADX7487
	10	Speaker	A14LR75-51D
	11	DC Fan Motor	VXM1121
NSP	12	Chassis B	ANA7179
NSP	13	Chassis T	ANA7180
	14	Rear Panel SW	ANC8364
	15	Screw (3 x 11.5)	ABA7129
	16	Rubber Bushing	AEB7369
	17	Cushion F	AEB7370
	18	Cushion TX	AEB7371
	19	Rivet	AEC7514
	20	Packing	AEC7548
NSP	21	Barrier SW	AEC7552
NSP	22	Barrier AC	AEC7553
NSP	23	Duct Ring	AMR7511
NSP	24	Paper Tube 60	AMR7512
NSP	25	Acoustic Absorbent	AMV7001
NSP	26	Mesh	ANC8354
NSP	27	Ferrite Clamp	DTH1158
NSP	28	PCB Holder	PNW2029
NSP	29	Cosmetic Baffle	AMB7905
NSP	30	Cabinet	AMM7009
	31	Pioneer Name Plate	VAM1152
	32	Baffle Assy	AXG7279
	33	•••••	
	34	•••••	
	35	•••••	
	36	Screw	BBZ40P120FNI
	37	Screw	BYC40P160FNI
	38	Screw	BYC40P200FNI
	39	Screw	PBZ30P080FTC
	40	Screw	PSZ30P060FNI
	41	Getter SWR (TDLPW)	AAX8099

2.3 DISPLAY UNIT

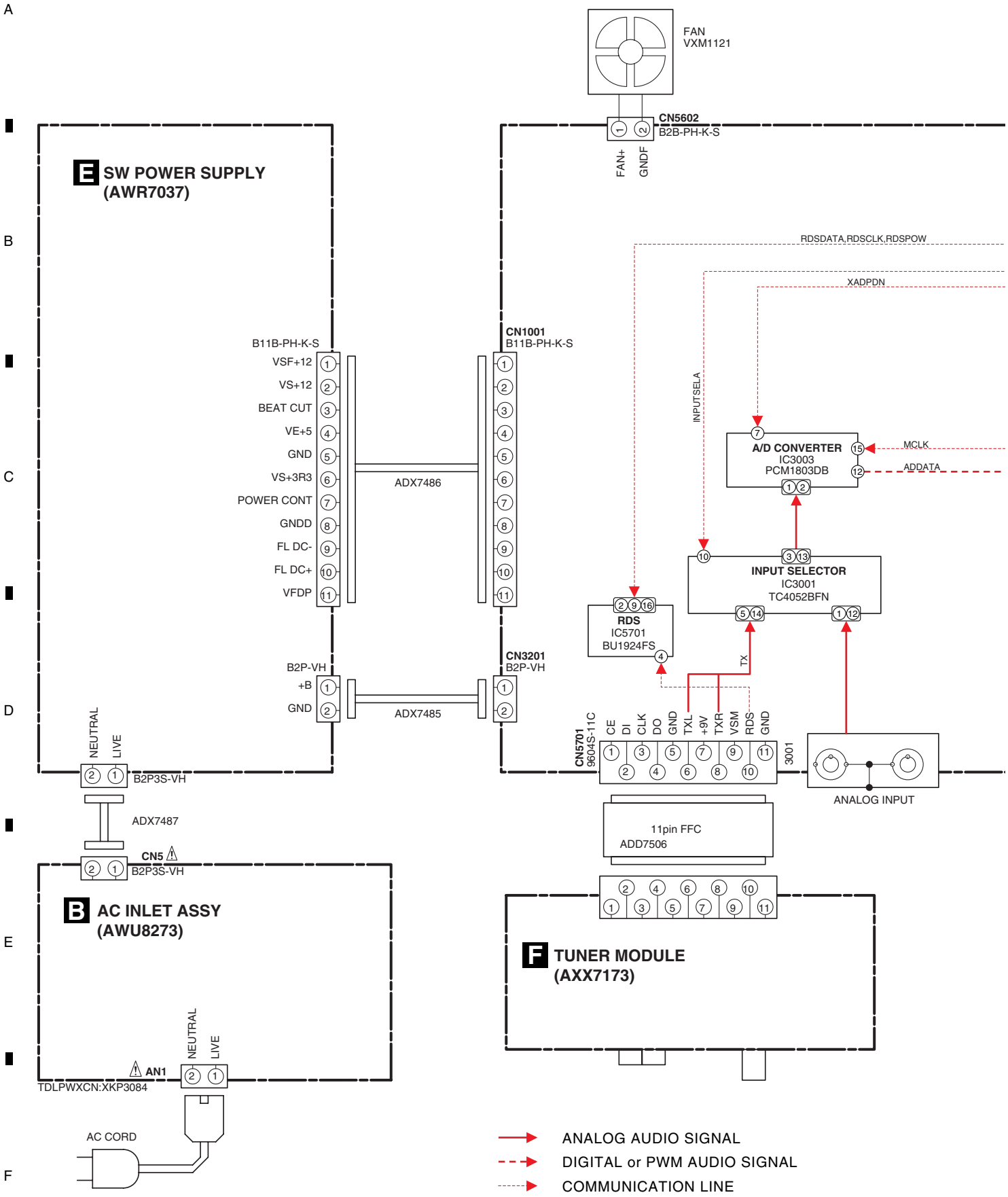


(1) DISPLAY UNIT PARTS LIST

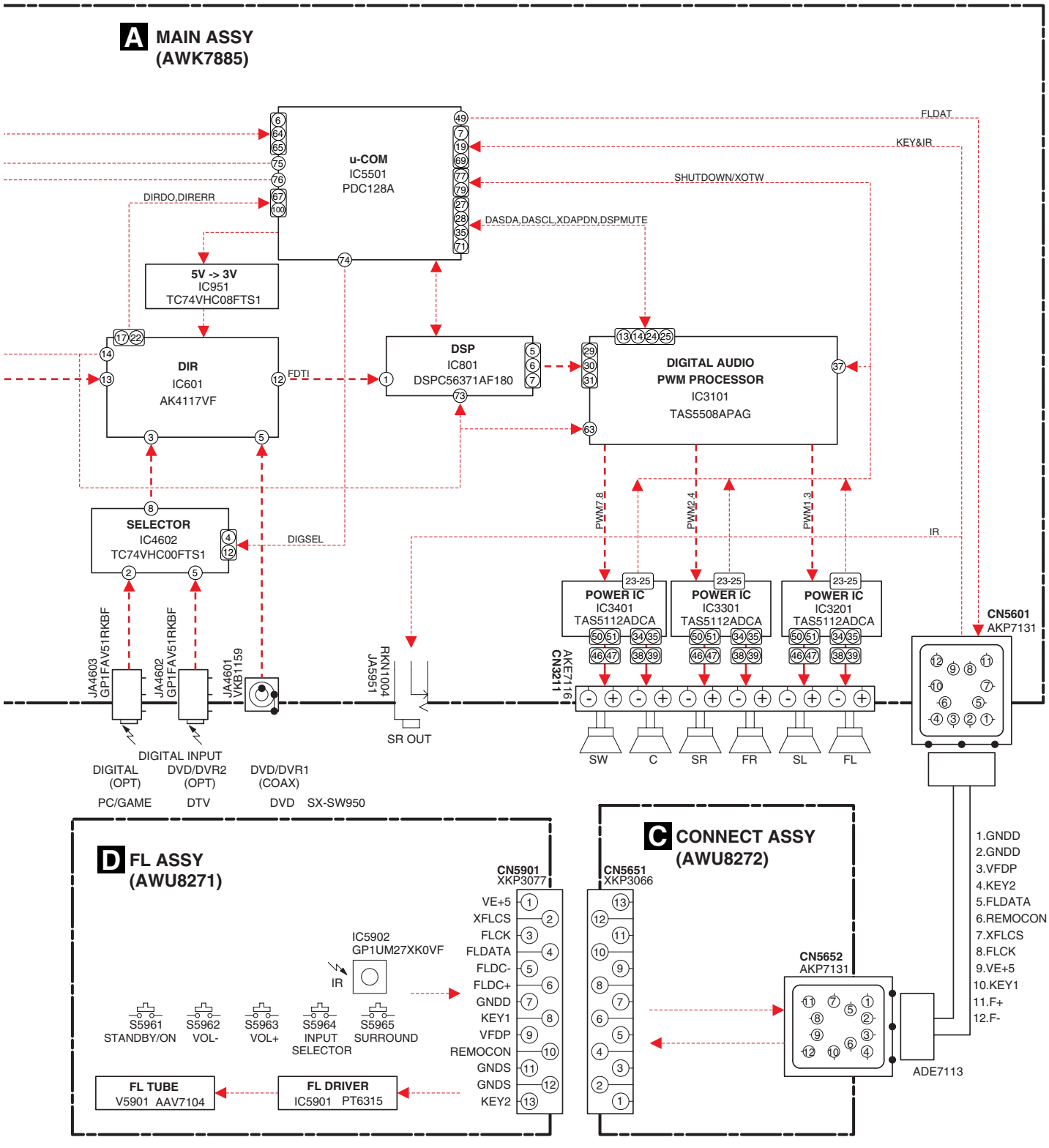
Mark	No.	Description	Part No.
	1	FL Assy	AWU8271
	2	CONNECT Assy	AWU8272
	3	Leg	AEB7368
	4	Window	AAK8285
	5	FL Filter	AEC7535
	6	Display Panel	AMB7899
	7	Display Cover	AMC7059
	8	PWR Button Assy	AXG7260
	9	Pioneer Name Plate	VAM1152
	10	Screw	BPZ30P080FNI
	11	Screw	PSZ30P060FNI
	12	DISPLAY Unit	AXX7204

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

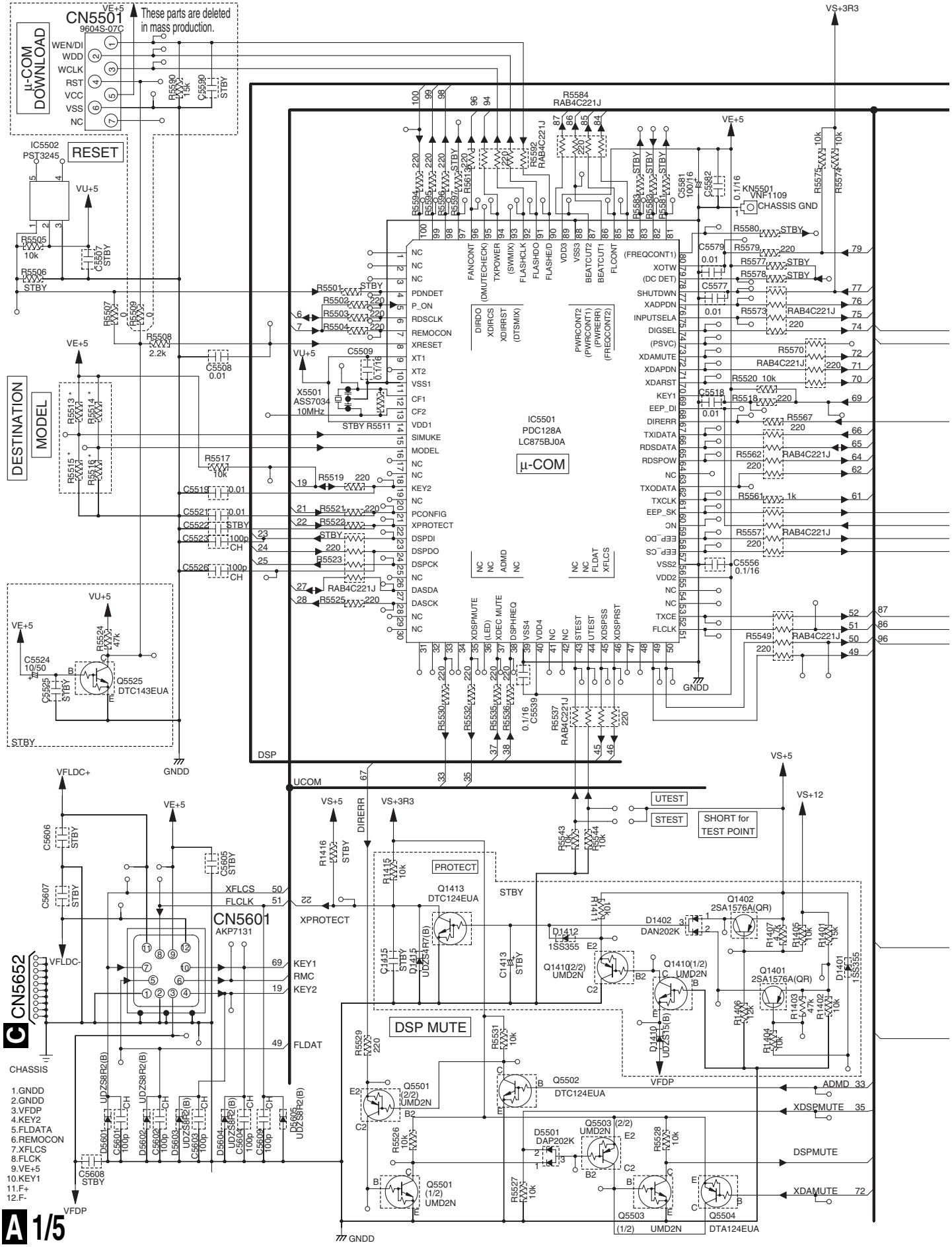
3.1 OVERALL WIRING CONNECTION DIAGRAM AND BLOCK DIAGRAM



- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- : The power supply is shown with the marked box.



3.2 MAIN ASSY (1/5)



A 1/5 MAIN ASSY (AWK7885)

A 3/5

A 2/5-5/5

*	Destination	TDLPW
	R5513	47k
	R5515	47k

*	MODEL	ALL	—
	R5514	—	*
	R5516	47k	*

NOTES

All Capacitors are in p-pF or uF unless otherwise specified
Ratings : Capacity(uF)/Voltage(V)
Rated Voltage : 50V unless otherwise specified

SQ : CKSQ**(2125size)
CH : CCSRCH(1608size)
(others : CKSRYB(1608size))

JQ : CEJQ
(others : CEAT)

All Resistors are in k-k Ω, M-M Ω or Ω

1/8W : RS1/8S***J(3216size)
1/10W : RS1/10S***J(2125size)
(others : RS1/16S***J(1608size)

Reference voltage value

- It will be described in .
- It may fluctuate by the product.

SR OUT

EEPROM

POWER SUPPLY

FAN

BEAT CUT

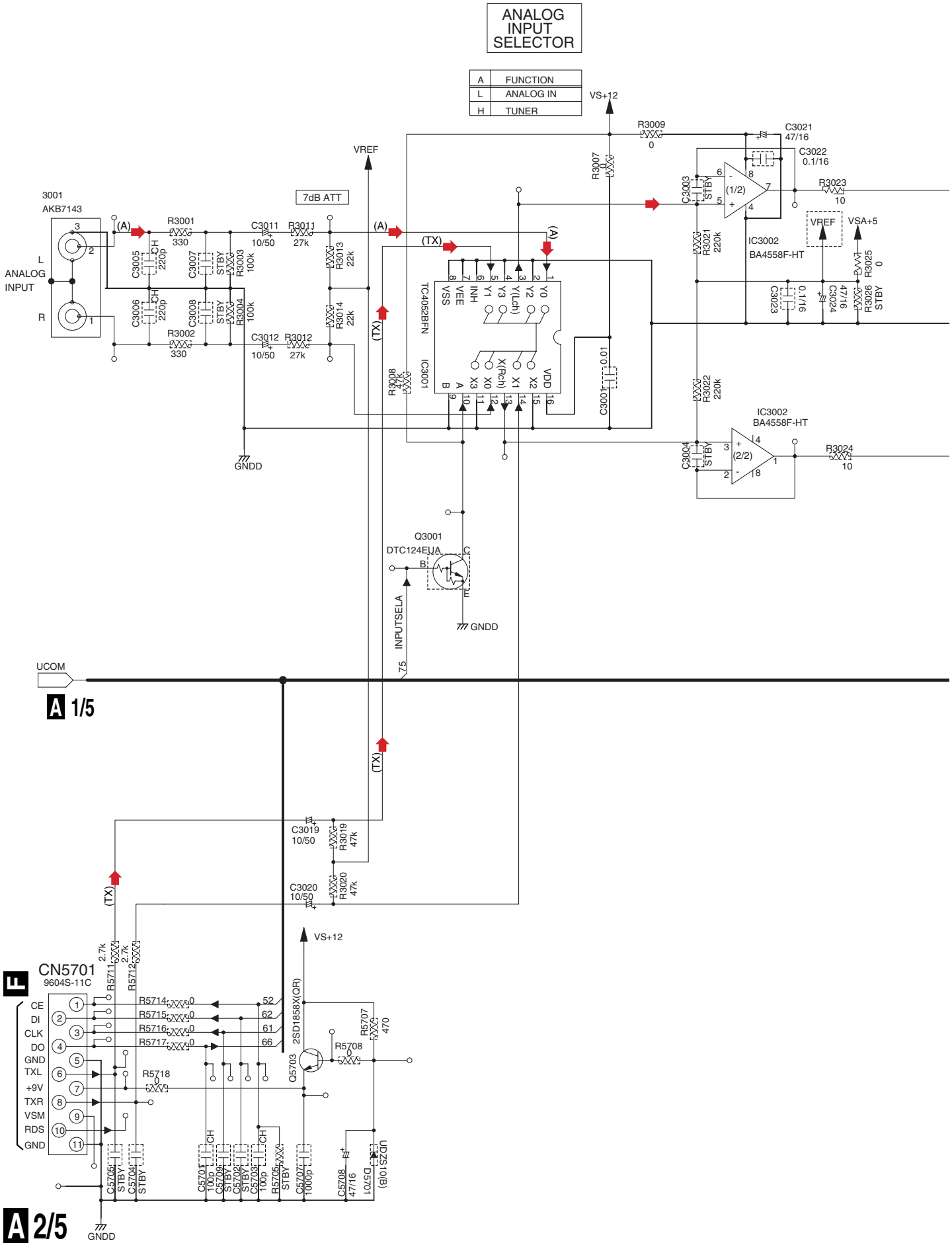
FAN VOLTAGE TABLE

ROTATION	POWER	VOLTAGE
LOW	VSF+12	12.3
Not Digital Stream. (The Analog IN is excluded)	VSFAN	6.7
LOW	VSF+12	13.1
Analog IN (VOL19 or less)	VSFAN	7.4
HIGH	VSF+12	13.0
VOL20 or more	VSFAN	12.2

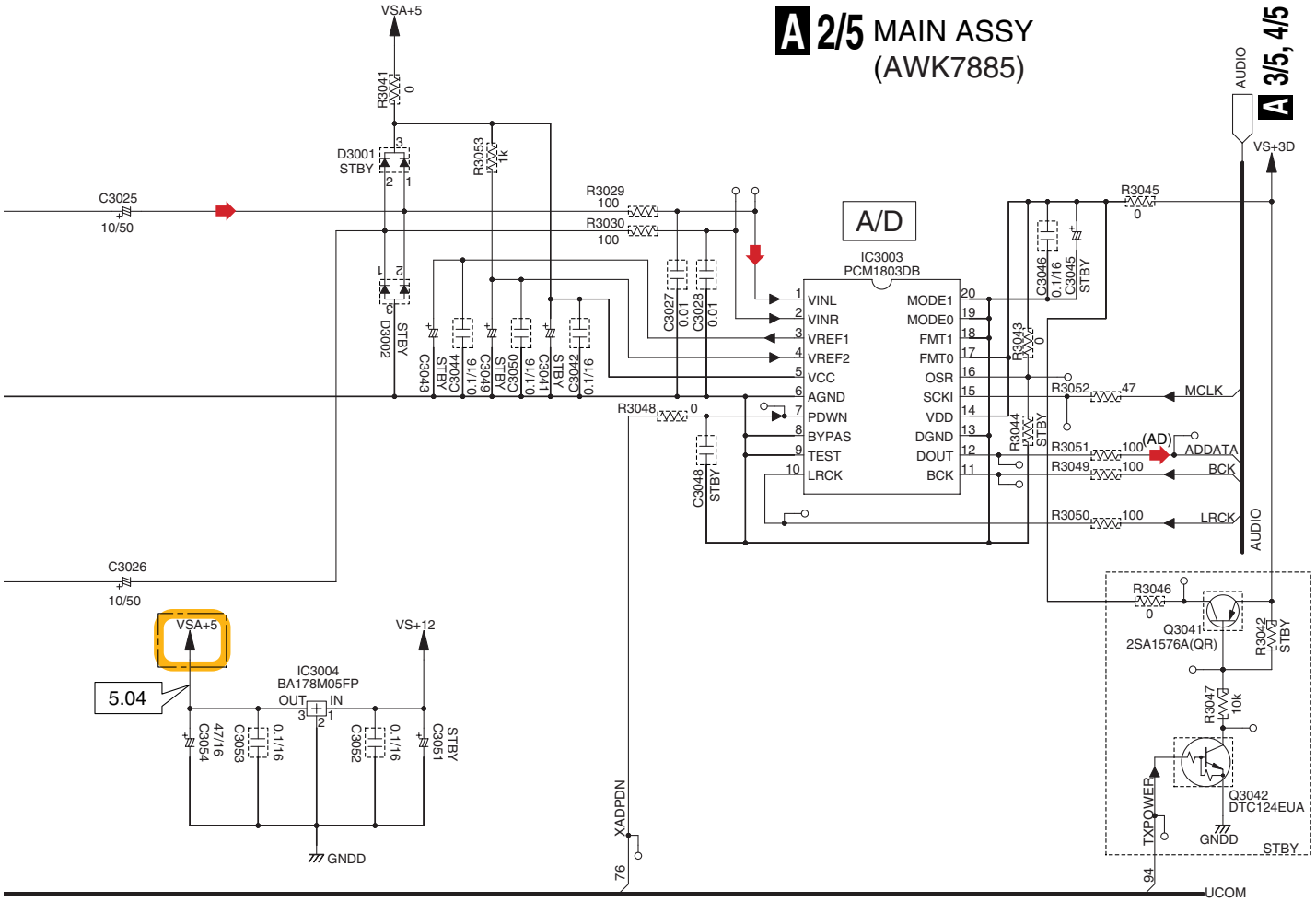
FAN (VXM1121)

E CN3

3.3 MAIN ASSY (2/5)



A 2/5 MAIN ASSY (AWK7885)



(A) ➡ : AUDIO SIGNAL ROUTE (ANALOG IN)
(TX) ➡ : AUDIO SIGNAL ROUTE (FM/AM)
➡ : AUDIO SIGNAL ROUTE
(AD) ➡ : AUDIO DATA SIGNAL ROUTE

NOTES

All Capacitors are in p-pF or uF
unless otherwise specified
Ratings : Capacity(uF)/Voltage(V)
Rated Voltage : 50V unless otherwise specified

SQ : CKSQ**(2125size)
CH : CCSRCH(1608size)
(others : CKSRYB(1608size))

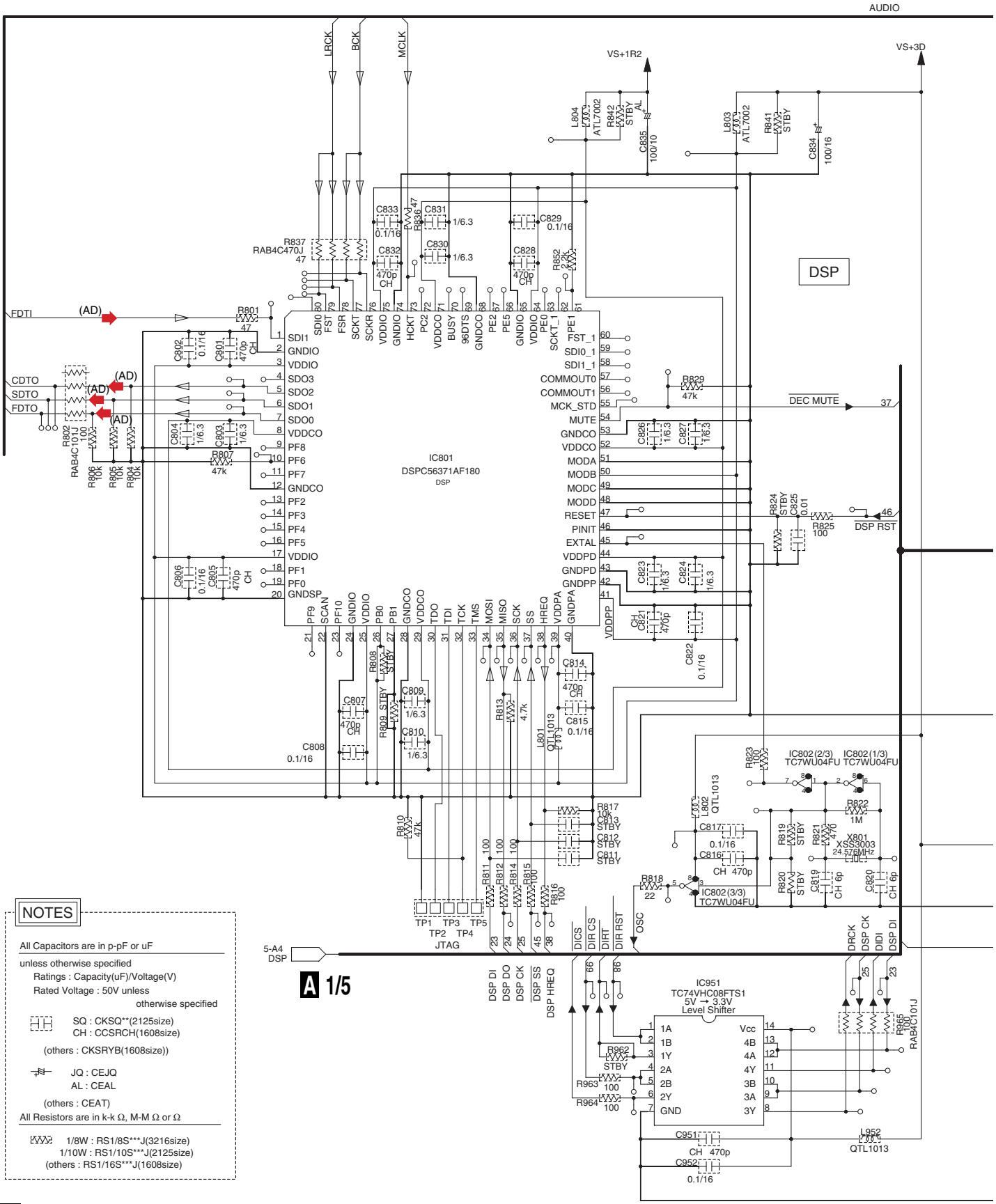
JQ : CEJQ
(others : CEAT)

All Resistors are in k-k Ω, M-M Ω or Ω

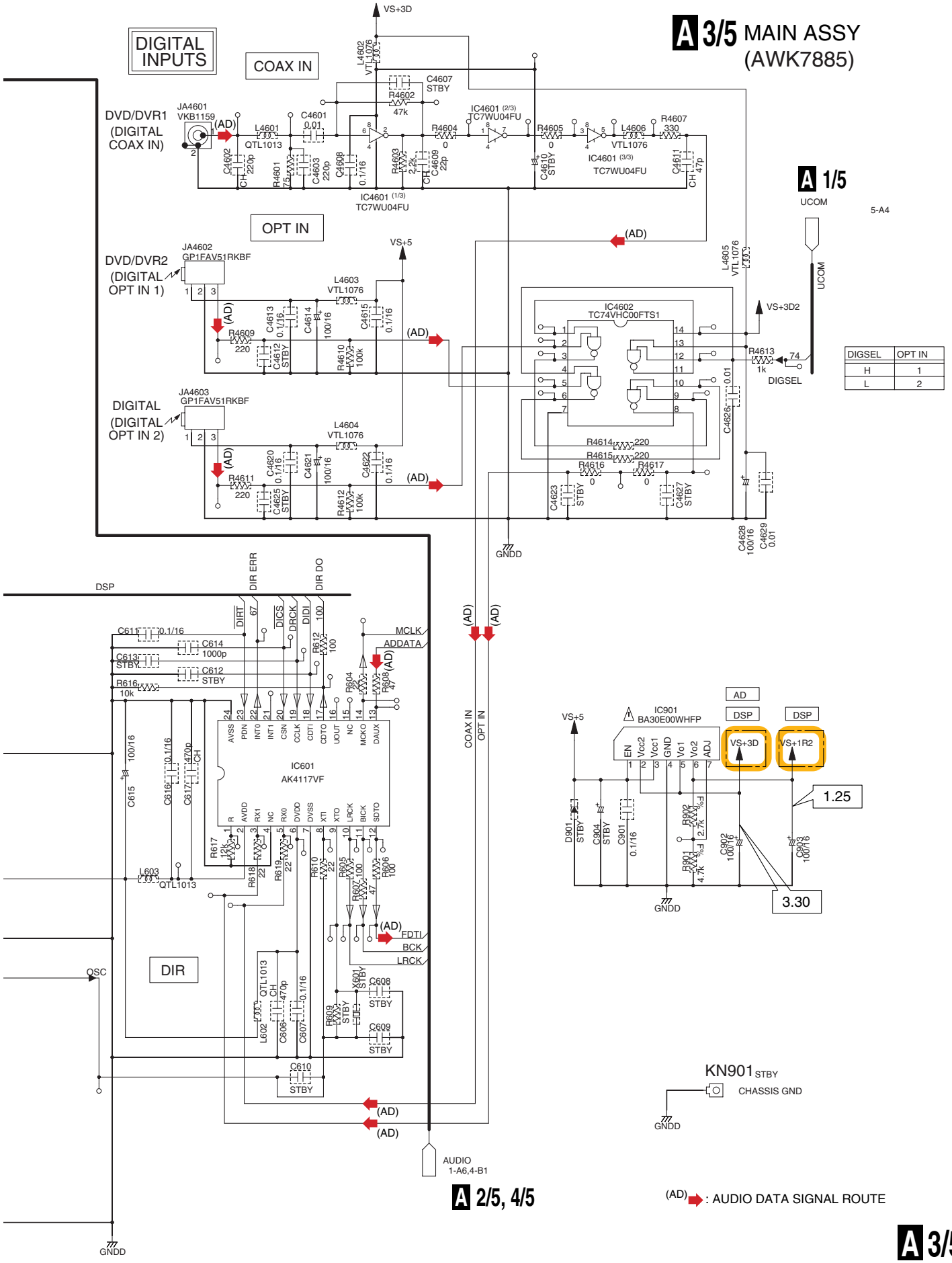
1/8W : RS1/8S***J(3216size)
1/10W : RS1/10S***J(2125size)
(others : RS1/16S***J(1608size)

A 2/5

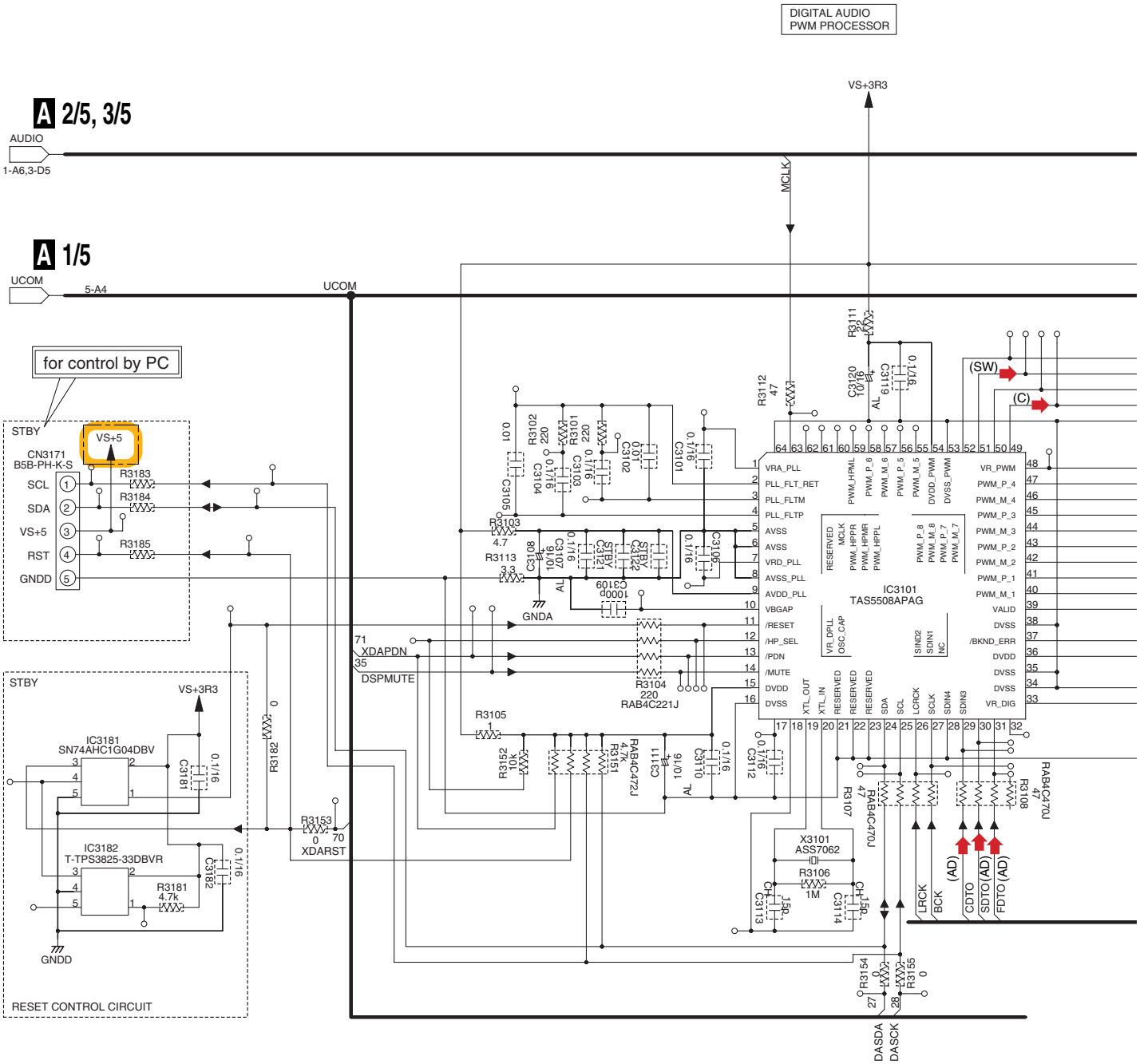
3.4 MAIN ASSY (3/5)



A 3/5 MAIN ASSY (AWK7885)



3.5 MAIN ASSY (4/5)



A 4/5 MAIN ASSY (AWK7885)

NOTES

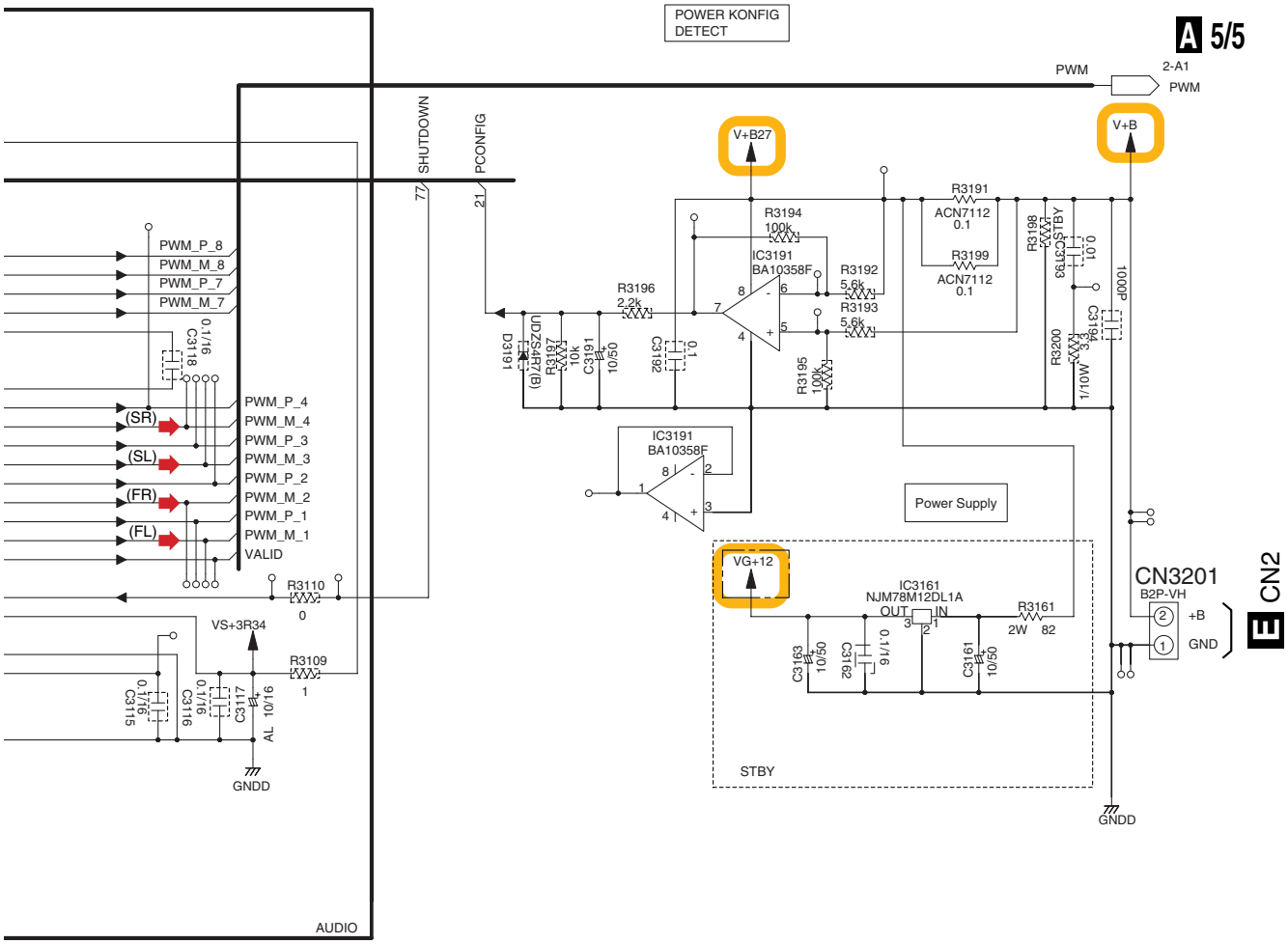
All Capacitors are in p-pF or uF unless otherwise specified
Ratings : Capacity(uF)/Voltage(V)
Rated Voltage : 50V unless otherwise specified

SQ : CKSQ**(2125size)
CH : CCSRCH(1608size)
(others : CKSRYB(1608size))

JQ : CEJQ
AL : CEAL
(others : CEAT)

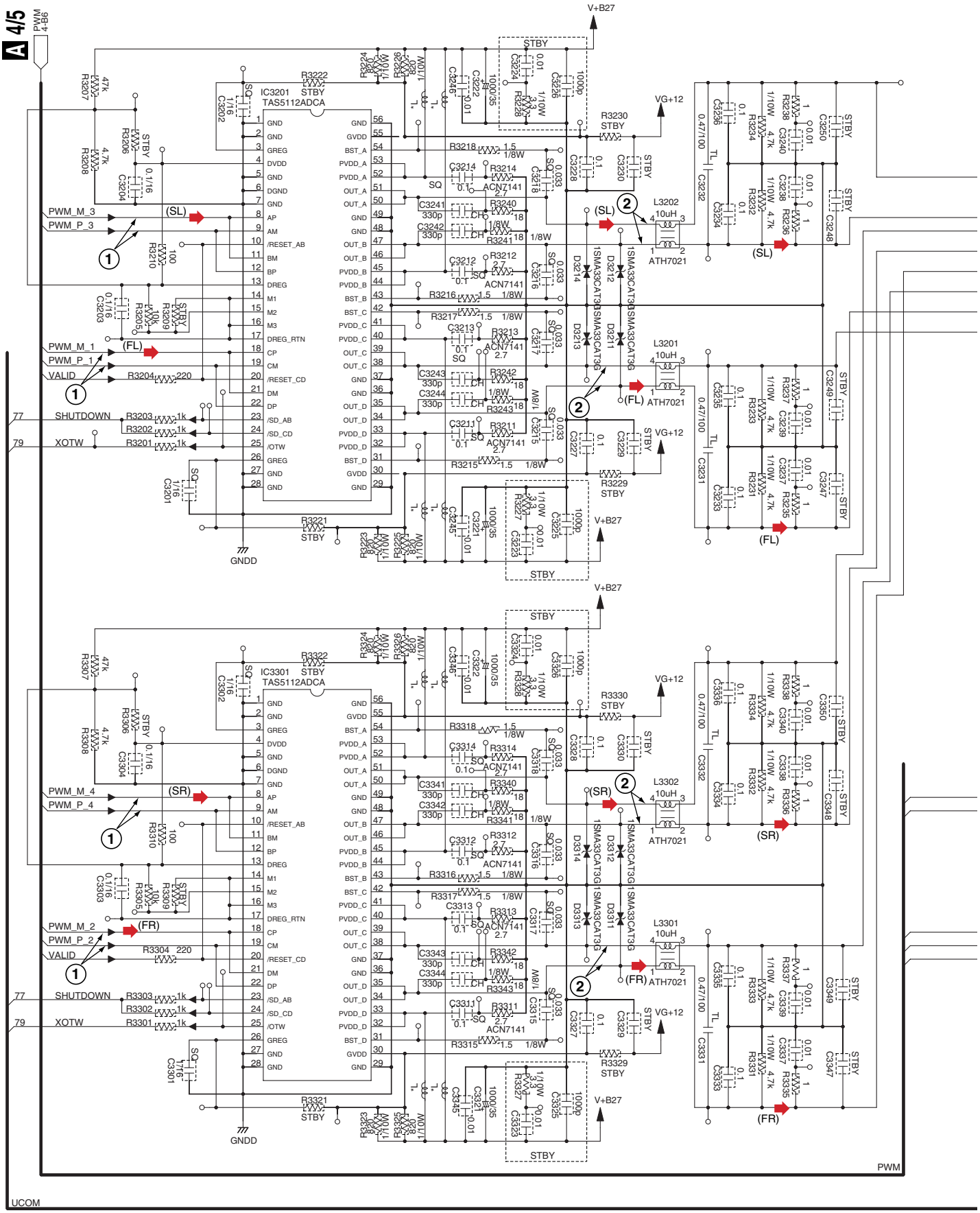
All Resistors are in k-k Ω, M-M Ω or Ω

1/8W : RS1/8S***J(3216size)
1/10W : RS1/10S***J(2125size)
(others : RS1/16S***J(1608size)



(FL) : AUDIO SIGNAL ROUTE (PWM)(Front Lch)
(FR) : AUDIO SIGNAL ROUTE (PWM)(Front Rch)
(SL) : AUDIO SIGNAL ROUTE(PWM)(Surround Lch)
(SR) : AUDIO SIGNAL ROUTE(PWM)(Surround Rch)
(C) : AUDIO SIGNAL ROUTE(PWM)(Center ch)
(SW) : AUDIO SIGNAL ROUTE(PWM)(Sub Woofer ch)
(AD) : AUDIO DATA SIGNAL ROUTE

3.6 MAIN ASSY (5/5)



LAYOUT NOTE :
*L are PCB track inductors approx. 50mm long and 1mm wide

A 5/5

A 5/5 MAIN ASSY (AWK7885)

NOTES

All Capacitors are in p-pF or uF
unless otherwise specified
Ratings : Capacity(uF)/Voltage(V)
Rated Voltage : 50V unless otherwise specified
SQ : CKSQ**(2125size)
CH : CCSRCH(1608size)
(others : CKSRYB(1608size))

TL : CFTLA
JQ : CEJQ
(others : CEAT)

All Resistors are in k-k Ω, M-M Ω or Ω
1/8W : RS1/8S***J(3216size)
1/10W : RS1/10S***J(2125size)
(others : RS1/16S***J(1608size)

CN3211
AKE7116
SL+
SL-
SR+
SR-
SW+
SW-
C+
C-
FR+
FR-
FL+
FL-

(SL)
(SR)
(FR)
(FL)

Terminal Layout

FL	FR	C
SL	SR	SW

PCB

GNDD
CHASSIS

AMP POWER STAGE

IC3401 TAS5112ADCA

PWM_M_8
PWM_P_8
PWM_M_7
PWM_P_7
VALID
SHUTDOWN
XOTW
UCOM

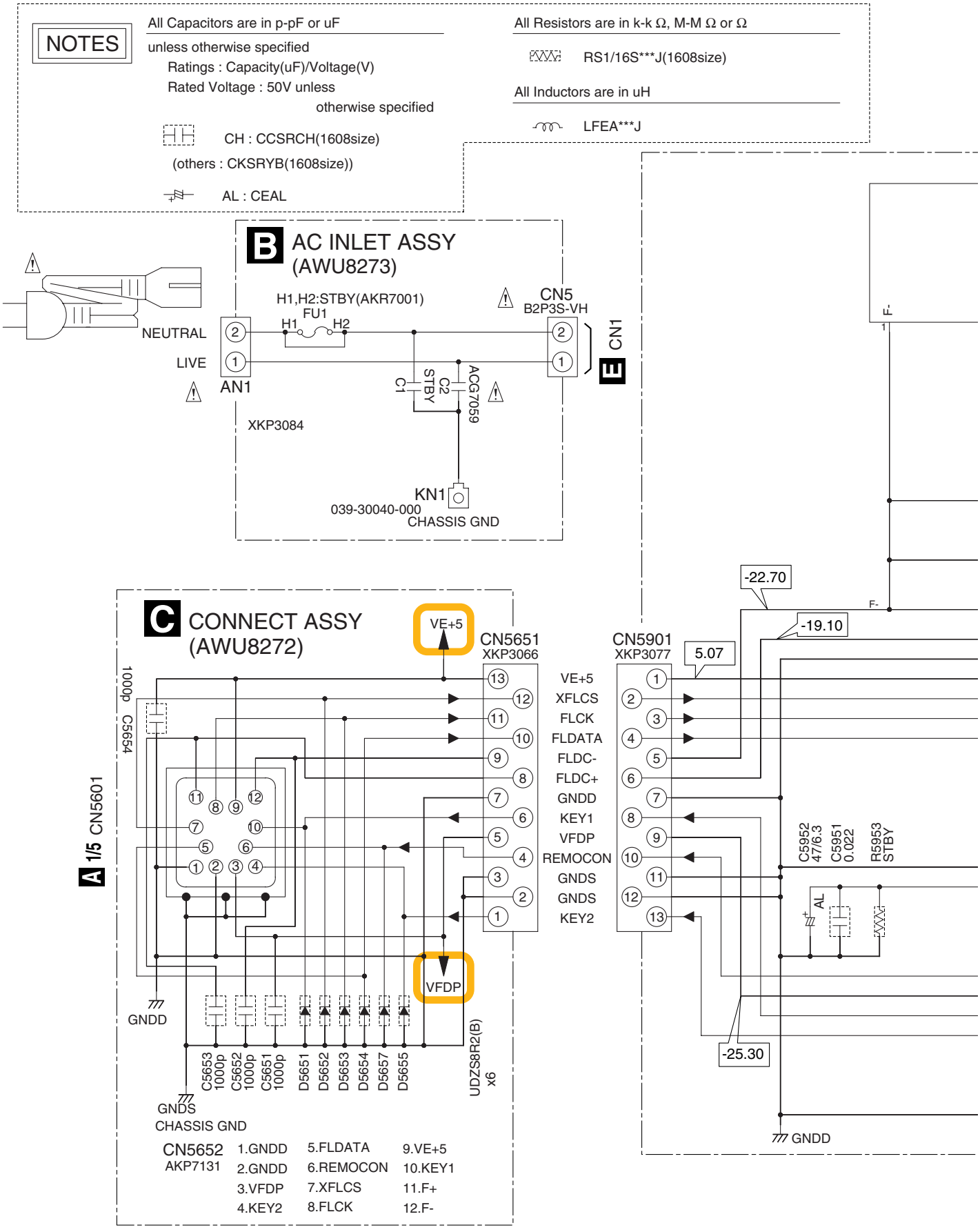
V+B27
VG+12
STBY
GNDD

(FL) : AUDIO SIGNAL ROUTE (PWM)(Front Lch)
(FR) : AUDIO SIGNAL ROUTE (PWM)(Front Rch)
(SL) : AUDIO SIGNAL ROUTE(PWM)(Surround Lch)
(SR) : AUDIO SIGNAL ROUTE(PWM)(Surround Rch)
(C) : AUDIO SIGNAL ROUTE(PWM)(Center ch)
(SW) : AUDIO SIGNAL ROUTE(PWM)(Sub Woofer ch)

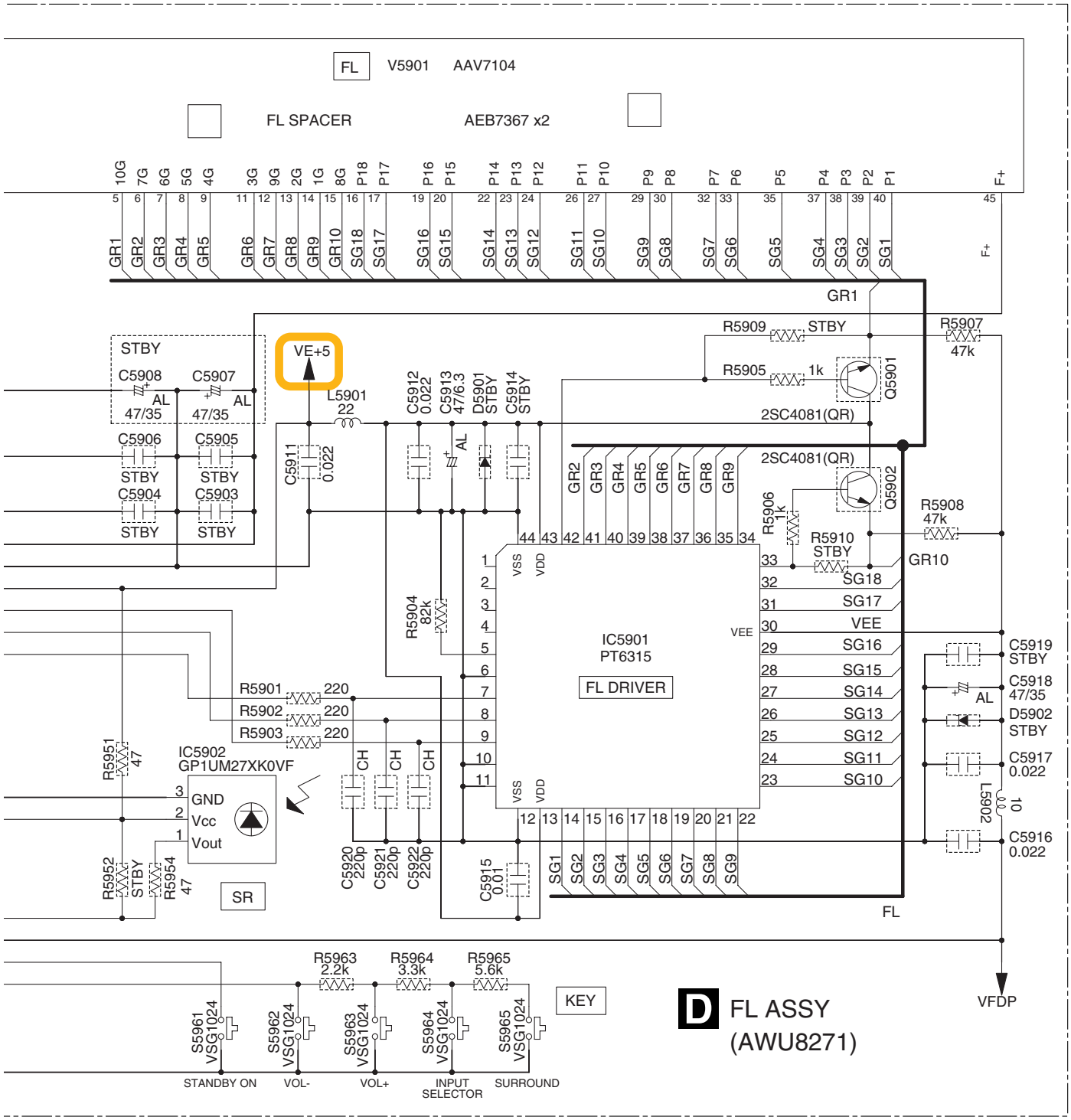
5-A4 A 1/5

A 5/5

3.7 AC INLET, CONNECT and FL ASSYS



B C

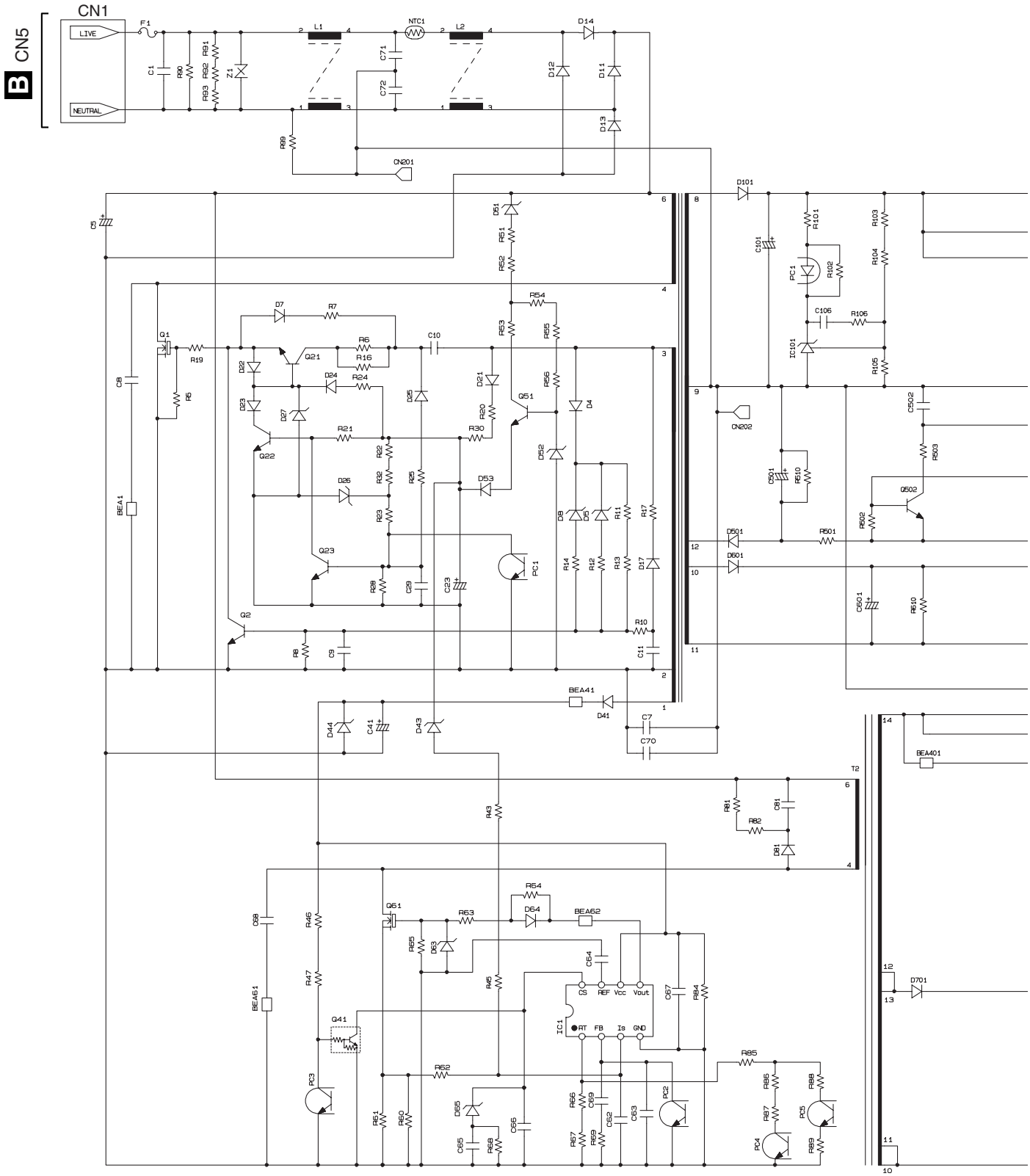


Switches

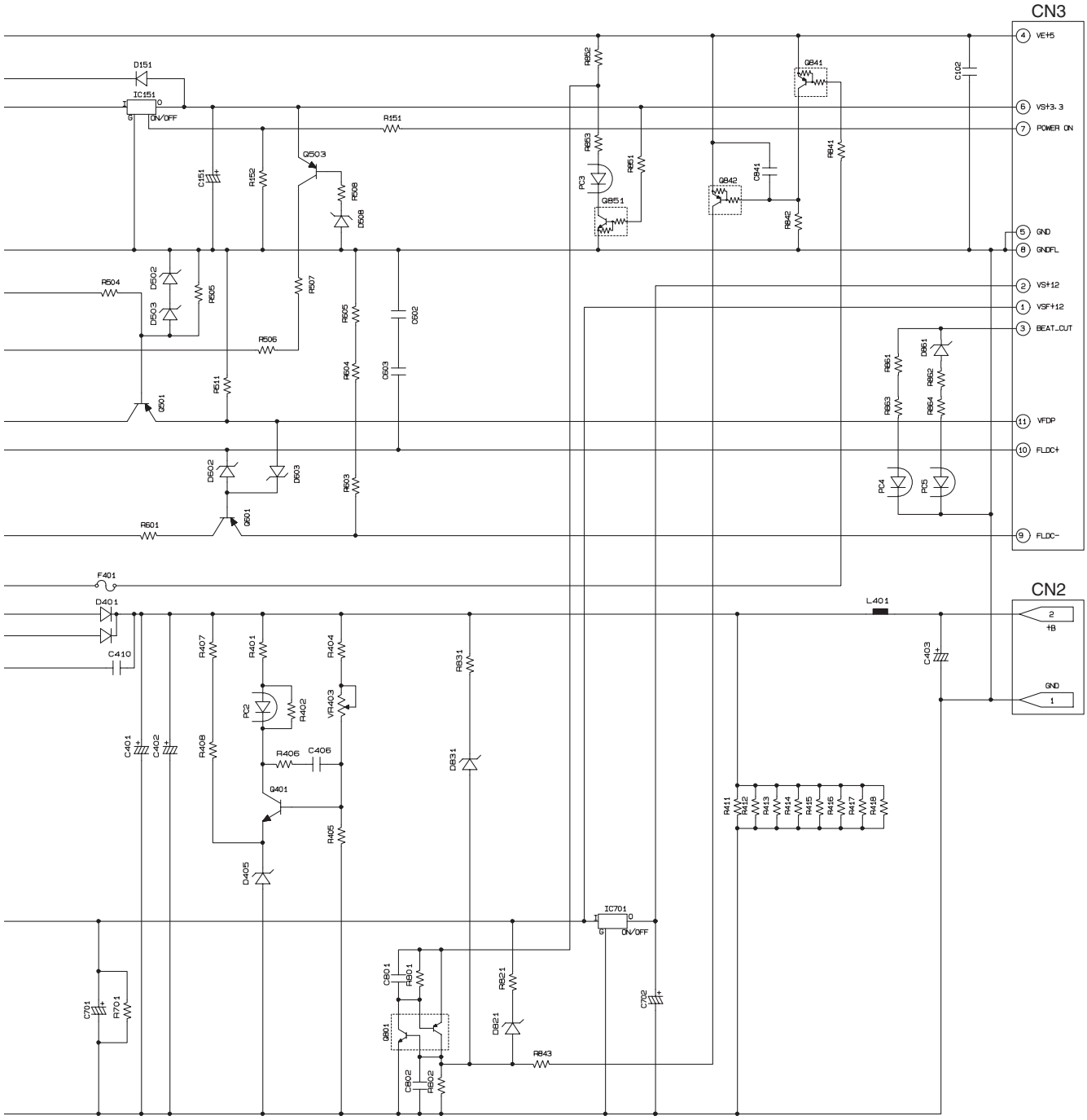
FL ASSY

S5961 : ⏻ STANDBY/ON
S5962 : UP +
S5963 : – DOWN
] VOLUME
S5964 : AUDIO INPUT
S5965 : SURROUND

3.8 POWER SUPPLY UNIT



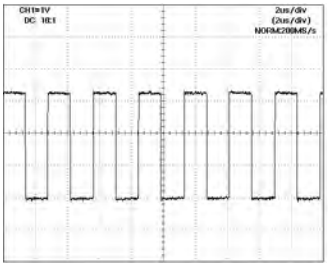
E POWER SUPPLY UNIT (AWR7037)



3.9 WAVEFORMS

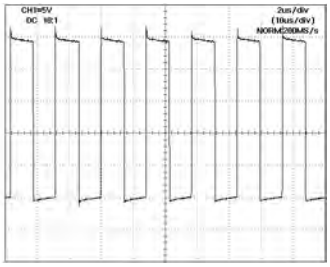
A MAIN ASSY

① IC3201, IC3301, IC3401 [PWM_M, PWM_P]
V: 1.0V/div. H: 2µsec/div.



② IC3201, IC3301, IC3401 [OUT_A, B, C, D]
V: 5.0V/div. H: 2µsec/div.

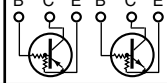
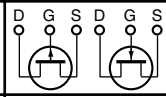
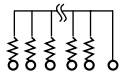
* Reference waveform



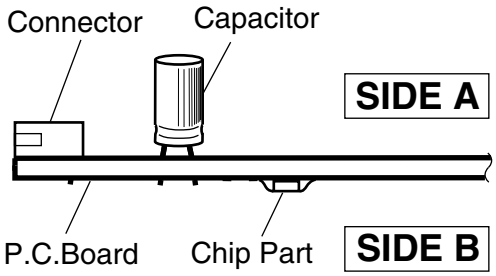
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

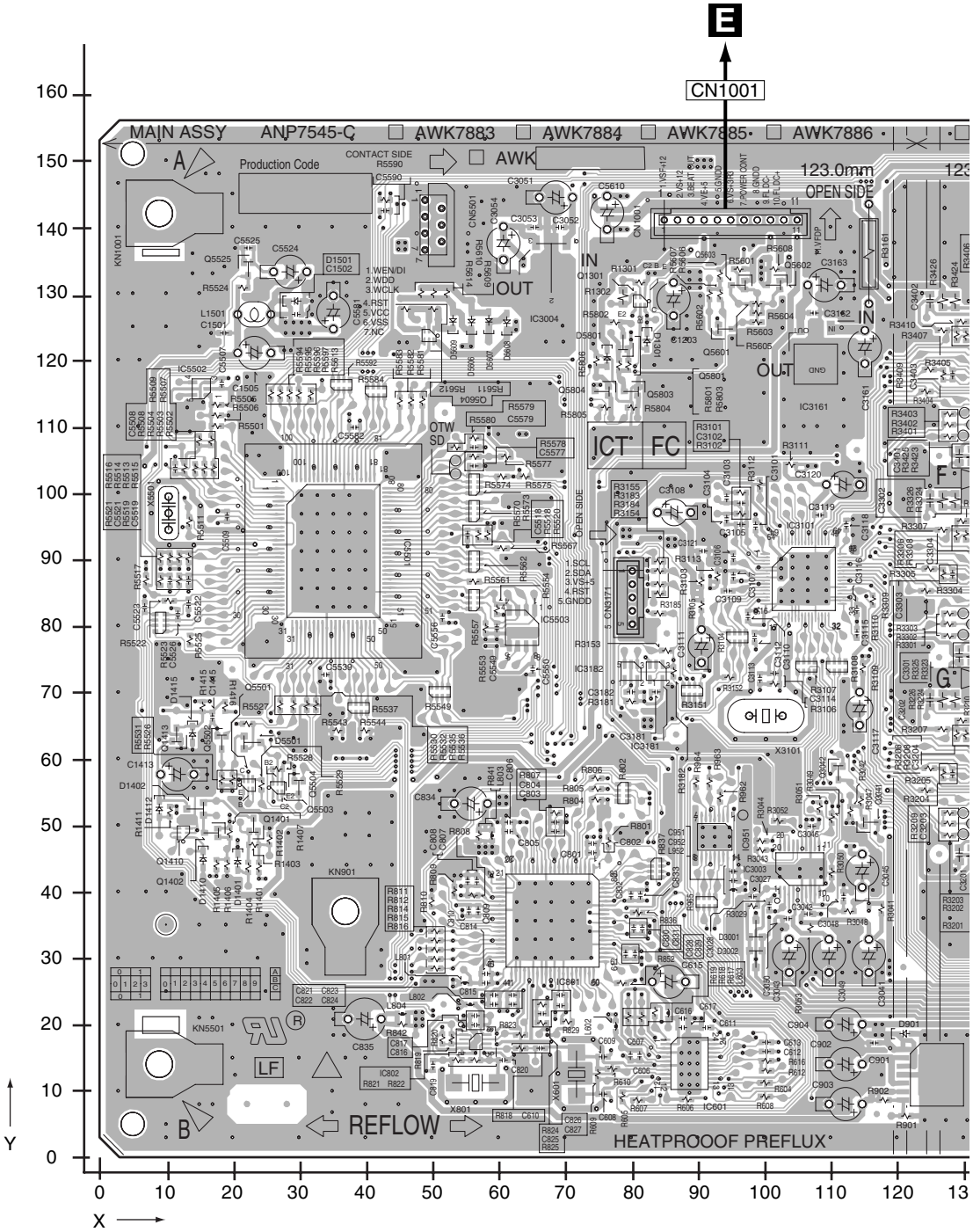
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 MAIN ASSY

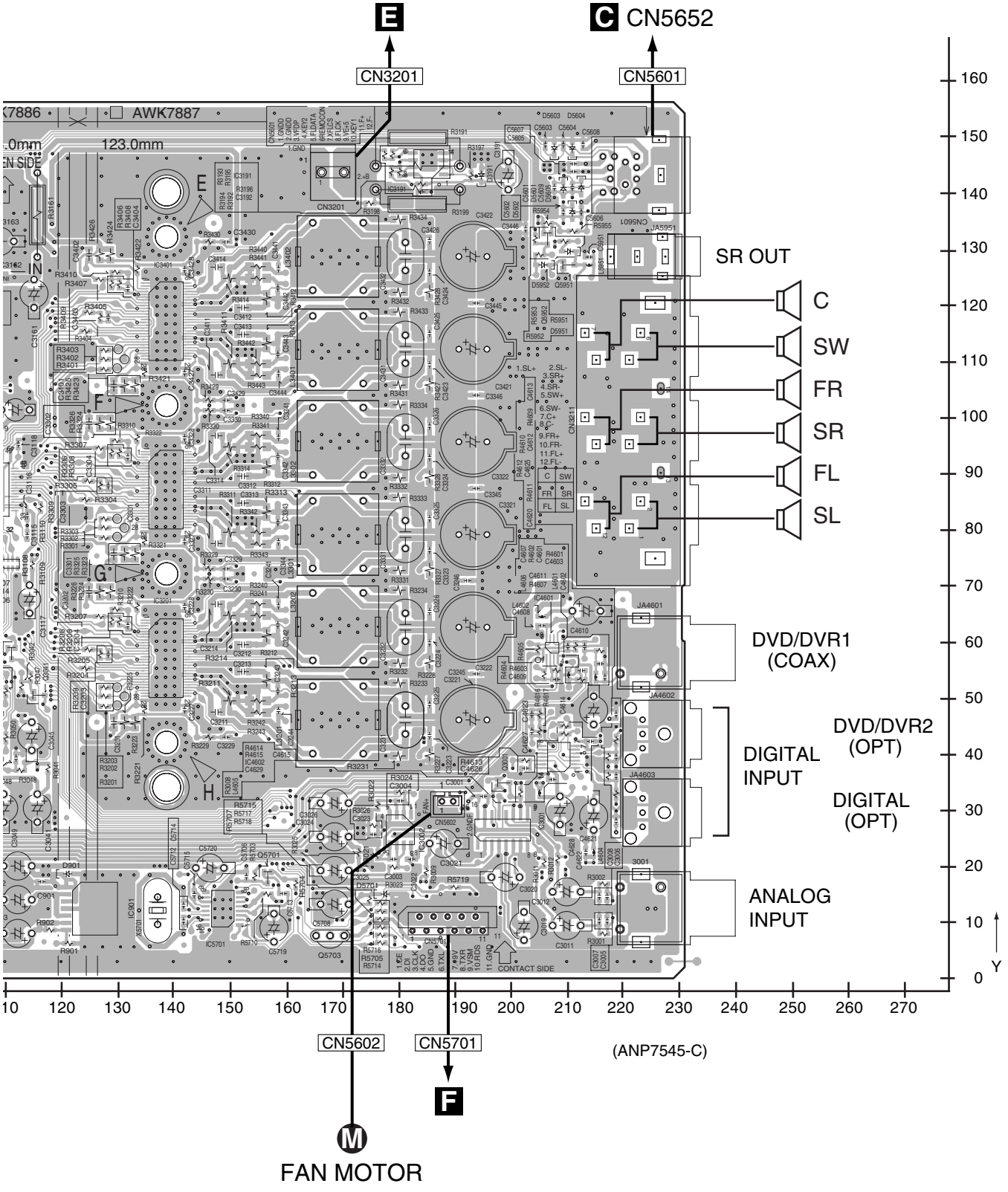
SIDE A

A MAIN ASSY



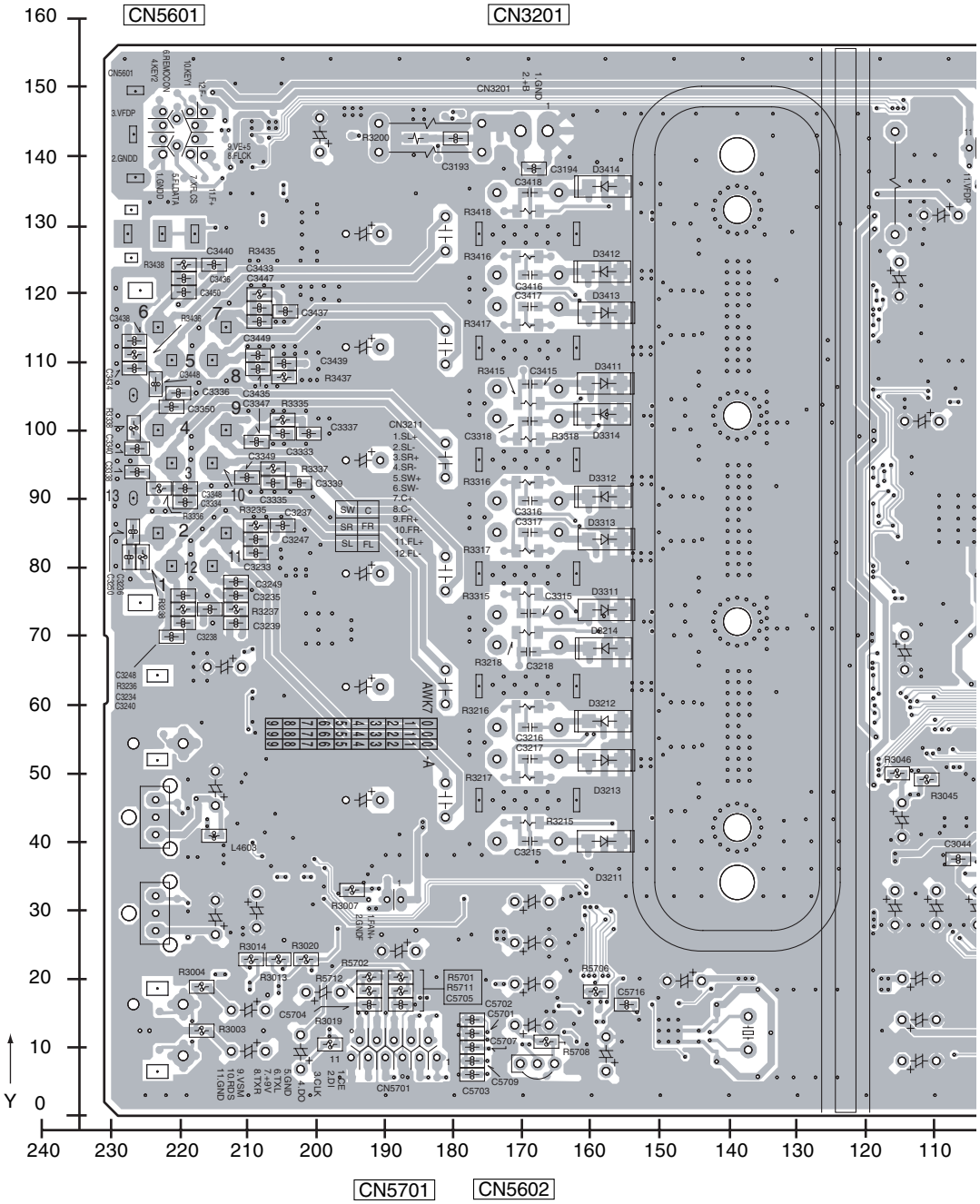
A

SIDE A

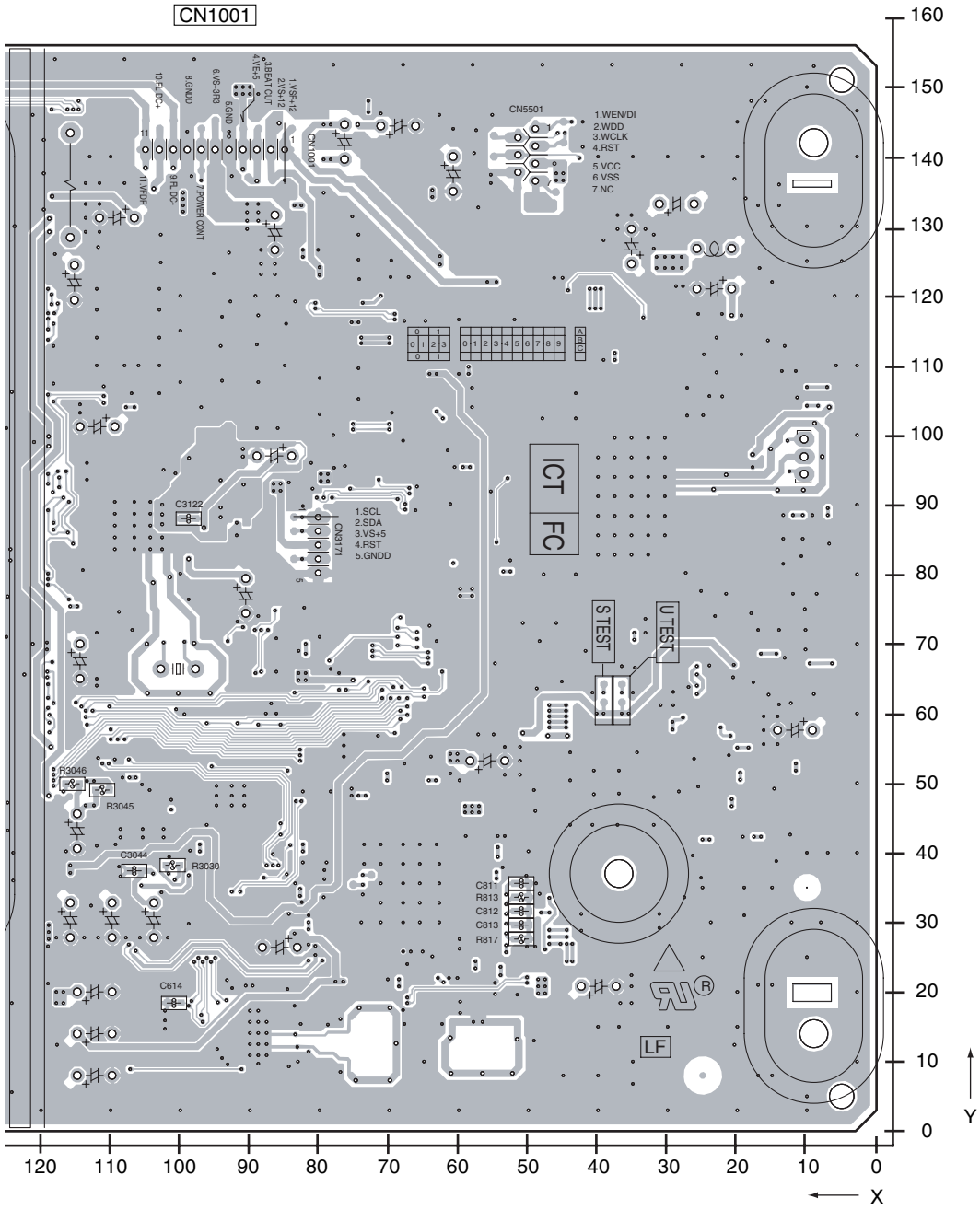

E
C CN5652
CN3201
CN5601
SR OUT
C
SW
FR
SR
FL
SL
DVD/DVR1
(COAX)
DVD/DVR2
(OPT)
DIGITAL
INPUT
DIGITAL
(OPT)
ANALOG
INPUT
CONTACT SIDE
CN5602
CN5701
F
M
FAN MOTOR
(ANP7545-C)

SIDE B

A MAIN ASSY

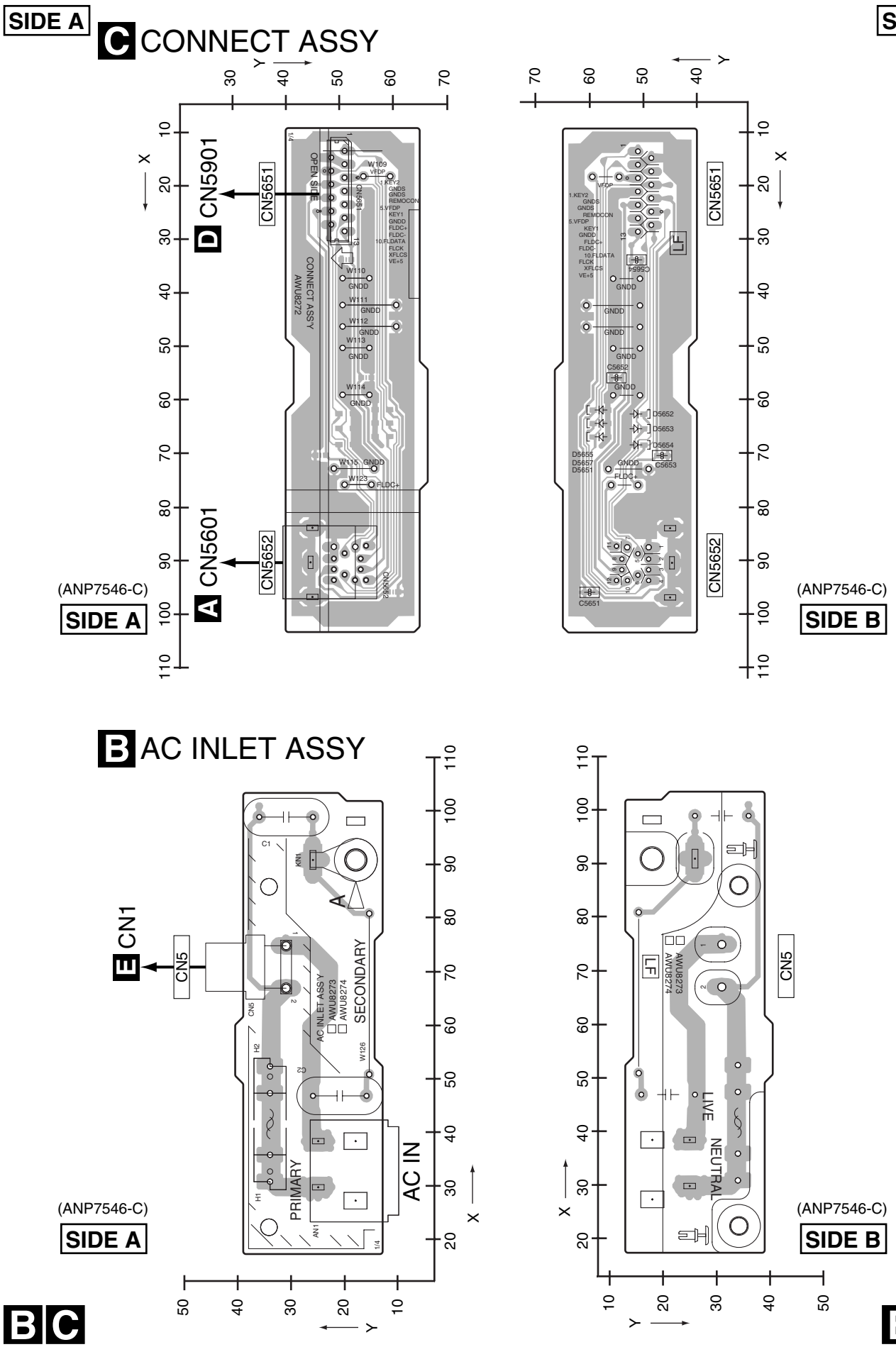


SIDE B



(ANP7545-C)

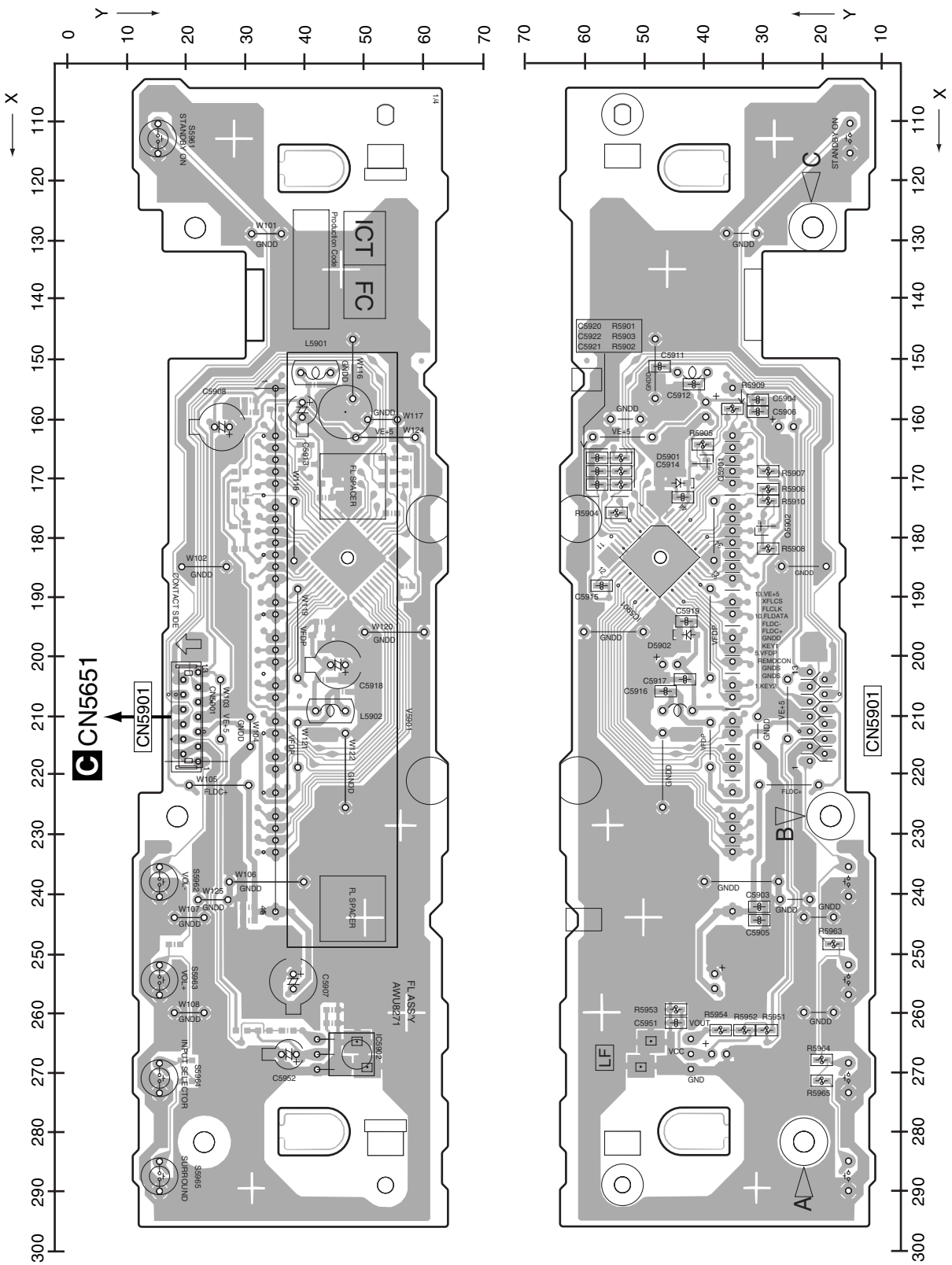
4.2 AC INLET and CONNECT ASSYS



4.3 FL ASSY

SIDE A **SIDE B**

D FL ASSY



(ANP7546-C) (ANP7546-C)

SIDE A **SIDE B**

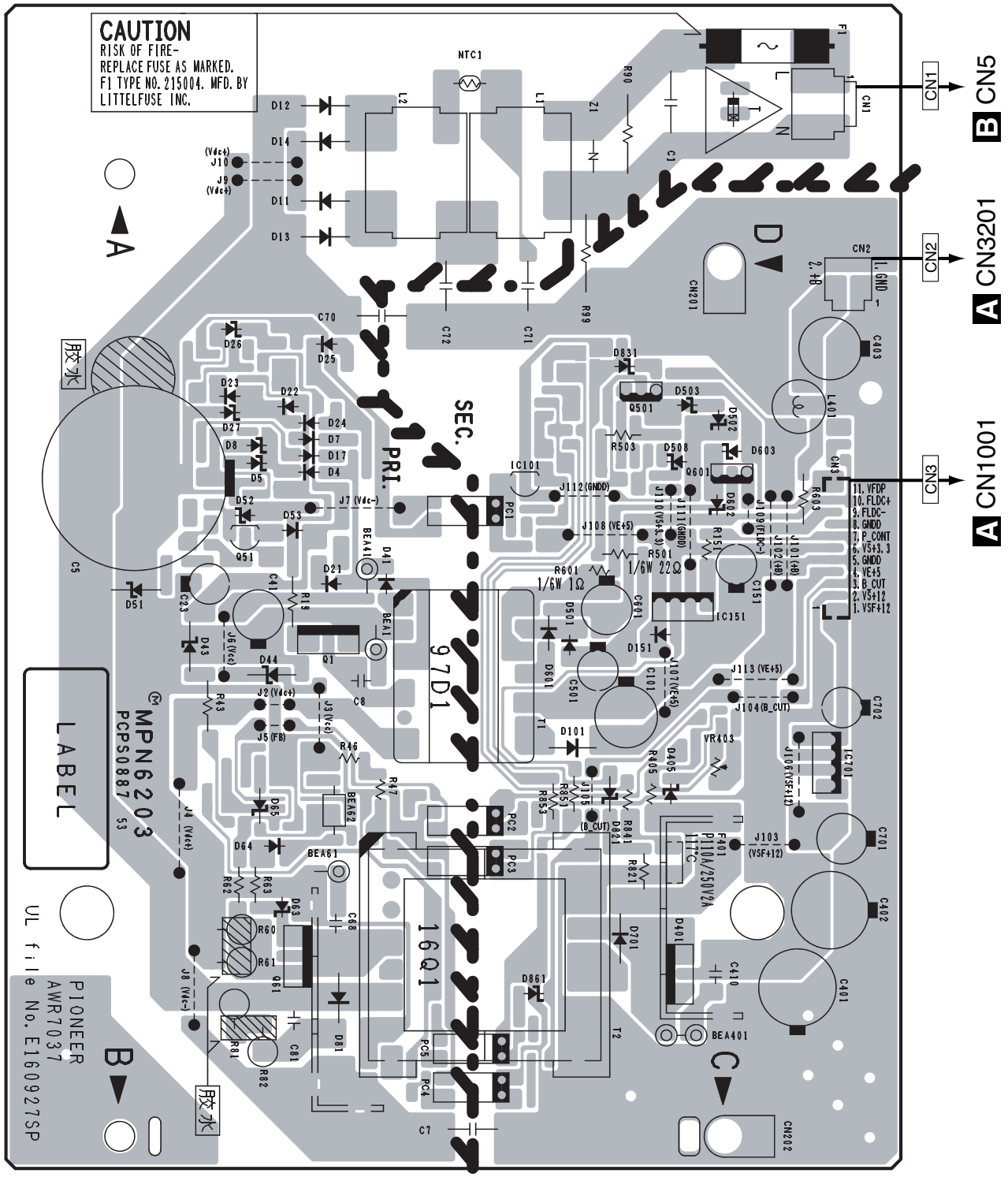
D **D**

4.4 POWER SUPPLY UNIT

A

SIDE A **SIDE A**

E POWER SUPPLY UNIT



B

C

D

E

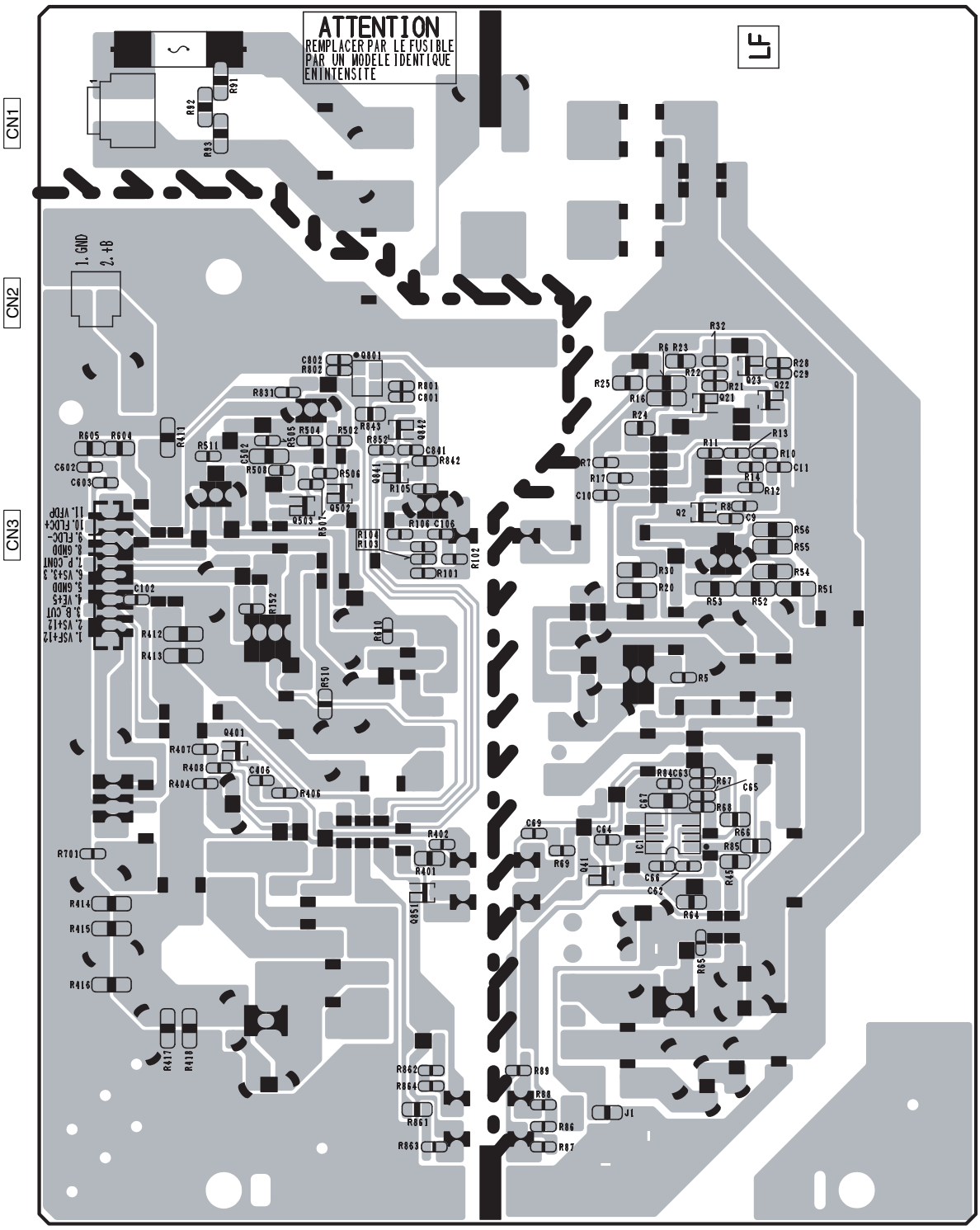
F

E **E**

SIDE B

SIDE B

E POWER SUPPLY UNIT



5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*

● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 ..... RD1/4PU 5 6 1 J

47k Ω → 47 x 10^3 → 473 ..... RD1/4PU 4 7 3 J

0.5 Ω → R50 ..... RN2H R 5 0 K

1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

● *Meaning of the figures and others in the parentheses in the parts list.*

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.

IC 301 (A, 91, 111) IC NJM2068V

LIST OF HOLE PCB ASSEMBLIES

Mark	No.	Description	Part No.
		1..MAIN ASSY	AWK7885
		1..DISPLAY ASSY	AWM8010
		2..FL ASSY	AWU8271
		2..CONNECT ASSY	AWU8272
		2..AC INLET ASSY	AWU8273
⚠		1..POWER SUPPLY UNIT	AWR7037
		1..FM/AM TUNER UNIT	AXX7173

A MAIN ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 601	(A,89,14) DIR IC	AK4117VF
	IC 801	(A,68,36) DSP IC	DSPC56371AF180
	IC 802	(A,57,17) IC	TC7WU04FU
⚠	IC 901	(A,126,12) REGULATOR IC	BA30E00WHFP
	IC 951	(A,93,48) IC	TC74VHC08FTS1
	IC 3001	(A,199,26) IC	TC4052BFN
	IC 3002	(A,180,26) OP-AMP IC	BA4558F-HT
	IC 3003	(A,105,43) A/D CONVERTER	PCM1803DB
	IC 3004	(A,68,133) IC	BA178M05FP
	IC 3101	(A,106,87) 8CH PWM PROCESSOR IC	TAS5508APAG
	IC 3191	(A,185,145) OP-AMP IC	BA10358F
	IC 3201	(A,139,57) DIGITAL AMP IC	TAS5112ADCA
	IC 3301	(A,139,87) DIGITAL AMP IC	TAS5112ADCA
	IC 3401	(A,139,117) DIGITAL AMP IC	TAS5112ADCA
	IC 4601	(A,207,59) IC	TC7WU04FU
	IC 4602	(A,209,39) IC	TC74VHC00FTS1
	IC 5501	(A,35,91) SYSTEM CONTROL MICON	PDC128A
	IC 5502	(A,15,116) RESET IC	PST3245
	IC 5503	(A,64,80) EEPROM	BR93L46RFJ-W
	Q 1301	(A,81,129) CHIP TRANSISTOR	UMF21N
	Q 3001	(A,199,35) DIGITAL TRANSISTOR	DTC124EUA
	Q 5501	(A,22,56) TRANSISTOR	UMD2N
	Q 5502	(A,18,62) DIGITAL TRANSISTOR	DTC124EUA
	Q 5503	(A,27,56) TRANSISTOR	UMD2N
	Q 5504	(A,30,56) CHIP DIGITAL TRANS.	DTA124EUA
	Q 5604	(A,50,124) CHIP TRANSISTOR	UMF21N
	Q 5703	(A,170,8) TRANSISTOR	2SD1858X
	Q 5801	(A,79,123) TRANSISTOR	2SA1576A
	Q 5803	(A,80,115) TRANSISTOR	2SC4081
	Q 5804	(A,76,115) TRANSISTOR	2SC4081
	Q 5951	(A,210,127) DIGITAL TRANSISTOR	DTC124EUA
	Q 5952	(A,207,132) TRANSISTOR	2SA1576A
	D 1301	(A,82,123) DIODE	1SS355
	D 3191	(A,195,143) DIODE	UDZS4R7(B)
	D 3211	(B,158,40) TVS	1SMA33CAT3G
	D 3212	(B,158,58) TVS	1SMA33CAT3G
	D 3213	(B,158,52) TVS	1SMA33CAT3G
	D 3214	(B,158,68) TVS	1SMA33CAT3G
	D 3311	(B,158,74) TVS	1SMA33CAT3G
	D 3312	(B,158,90) TVS	1SMA33CAT3G
	D 3313	(B,158,84) TVS	1SMA33CAT3G
	D 3314	(B,158,102) TVS	1SMA33CAT3G
	D 3411	(B,158,107) TVS	1SMA33CAT3G
	D 3412	(B,158,123) TVS	1SMA33CAT3G
	D 3413	(B,158,117) TVS	1SMA33CAT3G
	D 3414	(B,158,135) TVS	1SMA33CAT3G
	D 5501	(A,23,62) DIODE	DAP202K
	D 5601	(A,209,141) DIODE	UDZS8R2(B)
	D 5602	(A,211,136) DIODE	UDZS8R2(B)
	D 5603	(A,208,148) DIODE	UDZS8R2(B)
	D 5604	(A,211,148) DIODE	UDZS8R2(B)
	D 5605	(A,213,141) DIODE	UDZS8R2(B)
	D 5606	(A,56,126) DIODE	UDZS3R9(B)
	D 5607	(A,59,126) DIODE	1SS355
	D 5608	(A,61,126) DIODE	1SS355
	D 5609	(A,53,126) DIODE	1SS355
	D 5701	(A,178,15) DIODE	UDZS10(B)
	D 5801	(A,76,120) DIODE	1SS355
	D 5951	(A,210,129) DIODE	1SS355
	D 5952	(A,206,127) DIODE	1SS355

COILS AND FILTERS

Mark	No.	Description	Part No.
	L 602	(A,78,20) CHIP SOLID INDUCTOR	QTL1013
	L 603	(A,86,22) CHIP SOLID INDUCTOR	QTL1013
	L 801	(A,55,26) CHIP SOLID INDUCTOR	QTL1013

Mark	No.	Description	Part No.
L	802	(A,56,23) CHIP SOLID INDUCTOR	QTL1013
L	803	(A,59,48) CHIP SOLID INDUCTOR	ATL7002
L	804	(A,46,22) CHIP SOLID INDUCTOR	ATL7002
L	952	(A,95,40) CHIP SOLID INDUCTOR	QTL1013
L	1501	(A,26,127) INDUCTOR	LFEA220J
L	3201	(A,165,40) INDUCTOR	ATH7021
L	3202	(A,165,57) INDUCTOR	ATH7021
L	3301	(A,165,73) INDUCTOR	ATH7021
L	3302	(A,165,90) INDUCTOR	ATH7021
L	3401	(A,165,106) INDUCTOR	ATH7021
L	3402	(A,165,123) INDUCTOR	ATH7021
L	4601	(A,215,54) CHIP SOLID INDUCTOR	QTL1013
L	4602	(A,206,64) CHIP BEADS	VTL1076
L	4603	(B,215,41) CHIP BEADS	VTL1076
L	4604	(A,215,22) CHIP BEADS	VTL1076
L	4605	(A,205,33) CHIP BEADS	VTL1076
L	4606	(A,210,54) CHIP BEADS	VTL1076
L	5951	(A,214,127) CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

C	606	(A,81,15)	CCSRCH471J50
C	607	(A,80,15)	CKSRYB104K16
C	611	(A,91,20)	CKSRYB104K16
C	614	(B,101,18)	CKSRYB102K50
C	615	(A,83,26)	CEAT101M16
C	616	(A,88,21)	CKSRYB104K16
C	617	(A,88,20)	CCSRCH471J50
C	801	(A,74,46)	CCSRCH471J50
C	802	(A,74,47)	CKSRYB104K16
C	803	(A,69,49)	CKSRYB105K6R3
C	804	(A,69,50)	CKSRYB105K6R3
C	805	(A,62,49)	CCSRCH471J50
C	806	(A,62,50)	CKSRYB104K16
C	807	(A,57,42)	CCSRCH471J50
C	808	(A,55,42)	CKSRYB104K16
C	809	(A,57,37)	CKSRYB105K6R3
C	810	(A,56,37)	CKSRYB105K6R3
C	814	(A,58,28)	CCSRCH471J50
C	815	(A,58,26)	CKSRYB104K16
C	816	(A,57,20)	CCSRCH471J50
C	817	(A,57,21)	CKSRYB104K16
C	819	(A,50,14)	CCSRCH6R0D50
C	820	(A,61,15)	CCSRCH6R0D50
C	821	(A,59,24)	CCSRCH471J50
C	822	(A,59,23)	CKSRYB104K16
C	823	(A,62,24)	CKSRYB105K6R3
C	824	(A,62,23)	CKSRYB105K6R3
C	825	(A,67,22)	CKSRYB103K50
C	826	(A,69,24)	CKSRYB105K6R3
C	827	(A,69,23)	CKSRYB105K6R3
C	828	(A,79,31)	CCSRCH471J50
C	829	(A,81,31)	CKSRYB104K16
C	830	(A,80,34)	CKSRYB105K6R3
C	831	(A,82,34)	CKSRYB105K6R3
C	832	(A,80,39)	CCSRCH471J50
C	833	(A,81,39)	CKSRYB104K16
C	834	(A,58,53)	CEAT101M16
C	835	(A,42,21)	CEAL101M10
C	901	(A,117,17)	CKSRYB104K16
C	902	(A,115,14)	CEAT101M16
C	903	(A,115,8)	CEAT101M16
C	951	(A,95,43)	CCSRCH471J50
C	952	(A,95,42)	CKSRYB104K16
C	1501	(A,19,124)	CKSRYB103K50
C	1502	(A,30,127)	CKSRYB104K16
C	1505	(A,21,121)	CEAT101M16
C	3001	(A,195,32)	CKSRYB103K50
C	3005	(A,217,10)	CCSRCH221J50
C	3006	(A,217,15)	CCSRCH221J50
C	3011	(A,208,9)	CEAT100M50
C	3012	(A,208,15)	CEAT100M50
C	3019	(A,202,7)	CEAT100M50
C	3020	(A,202,18)	CEAT100M50
C	3021	(A,186,24)	CEAT470M16
C	3022	(A,182,21)	CKSRYB104K16
C	3023	(A,176,26)	CKSRYB104K16
C	3024	(A,171,25)	CEAT470M16
C	3025	(A,171,19)	CEAT100M50
C	3026	(A,171,31)	CEAT100M50
C	3027	(A,98,39)	CKSRYB103K50
C	3028	(A,101,38)	CKSRYB103K50
C	3042	(A,107,37)	CKSRYB104K16
C	3044	(B,107,37)	CKSRYB104K16
C	3046	(A,107,50)	CKSRYB104K16
C	3050	(A,104,36)	CKSRYB104K16
C	3052	(A,69,140)	CKSRYB104K16
C	3053	(A,66,140)	CKSRYB104K16
C	3054	(A,61,140)	CEAT470M16
C	3101	(A,99,95)	CKSRYB104K16
C	3102	(A,97,98)	CKSRYB103K50
C	3103	(A,94,99)	CKSRYB104K16
C	3104	(A,94,96)	CKSRYB104K16
C	3105	(A,97,95)	CKSRYB103K50
C	3106	(A,95,90)	CKSRYB104K16
C	3107	(A,95,87)	CKSRYB104K16
C	3108	(A,84,97)	CEAL100M16
C	3109	(A,95,85)	CKSRYB102K50
C	3110	(A,98,81)	CKSRYB104K16
C	3111	(A,91,79)	CEAL100M16
C	3112	(A,99,78)	CKSRYB104K16
C	3113	(A,99,72)	CCSRCH150J50
C	3114	(A,102,73)	CCSRCH150J50
C	3115	(A,114,79)	CKSRYB104K16
C	3116	(A,114,82)	CKSRYB104K16
C	3117	(A,114,70)	CEAL100M16
C	3118	(A,112,95)	CKSRYB104K16
C	3119	(A,108,97)	CKSRYB104K16
C	3120	(A,109,101)	CEAL100M16
C	3191	(A,200,140)	CEAT100M50
C	3192	(A,184,140)	CKSRYB104K50
C	3193	(B,180,142)	CKSRYB103K50
C	3194	(B,168,138)	CKSRYB102K50
C	3201	(A,129,46)	CKSQYB105K16
C	3202	(A,125,69)	CKSQYB105K16
C	3203	(A,128,58)	CKSRYB104K16
C	3204	(A,132,63)	CKSRYB104K16
C	3211	(A,148,47)	CKSQYB104K50
C	3212	(A,152,59)	CKSQYB104K50
C	3213	(A,152,55)	CKSQYB104K50
C	3214	(A,148,67)	CKSQYB104K50

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
C	3215(B,169,40)		CKSQYB333K50	C	3411(A,148,107)		CKSQYB104K50
C	3216(B,169,57)		CKSQYB333K50	C	3412(A,152,119)		CKSQYB104K50
C	3217(B,169,52)		CKSQYB333K50	C	3413(A,152,115)		CKSQYB104K50
C	3218(B,169,68)		CKSQYB333K50	C	3414(A,148,127)		CKSQYB104K50
C	3221(A,191,46)	ELECT. CAPACITOR	CEAT102M35	C	3415(B,169,107)		CKSQYB333K50
C	3222(A,191,63)	ELECT. CAPACITOR	CEAT102M35	C	3416(B,169,123)		CKSQYB333K50
C	3227(A,142,48)		CKSRYB104K50	C	3417(B,169,118)		CKSQYB333K50
C	3228(A,142,66)		CKSRYB104K50	C	3418(B,169,135)		CKSQYB333K50
C	3231(A,181,49)		CFTLA474J2A	C	3421(A,191,112)	ELECT. CAPACITOR	CEAT102M35
C	3232(A,181,65)		CFTLA474J2A	C	3422(A,191,129)	ELECT. CAPACITOR	CEAT102M35
C	3233(B,209,82)		CKSRYB104K50	C	3427(A,142,108)		CKSRYB104K50
C	3234(B,220,72)		CKSRYB104K50	C	3428(A,142,126)		CKSRYB104K50
C	3235(B,212,76)		CKSRYB104K50	C	3431(A,181,115)		CFTLA474J2A
C	3236(B,227,81)		CKSRYB104K50	C	3432(A,181,131)		CFTLA474J2A
C	3237(B,205,86)		CKSRYB103K50	C	3433(B,208,118)		CKSRYB104K50
C	3238(B,216,74)		CKSRYB103K50	C	3434(B,227,109)		CKSRYB104K50
C	3239(B,212,72)		CKSRYB103K50	C	3435(B,209,109)		CKSRYB104K50
C	3240(B,221,70)		CKSRYB103K50	C	3436(B,219,122)		CKSRYB104K50
C	3241(A,159,66)		CCSRCH331J50	C	3437(B,205,117)		CKSRYB103K50
C	3242(A,159,63)		CCSRCH331J50	C	3438(B,227,113)		CKSRYB103K50
C	3243(A,159,51)		CCSRCH331J50	C	3439(B,205,110)		CKSRYB103K50
C	3244(A,159,48)		CCSRCH331J50	C	3440(B,215,124)		CKSRYB103K50
C	3245(A,194,54)		CKSRYB103K50	C	3441(A,159,126)		CCSRCH331J50
C	3246(A,192,71)		CKSRYB103K50	C	3442(A,159,123)		CCSRCH331J50
C	3301(A,129,76)		CKSQYB105K16	C	3443(A,159,111)		CCSRCH331J50
C	3302(A,125,99)		CKSQYB105K16	C	3444(A,159,108)		CCSRCH331J50
C	3303(A,128,88)		CKSRYB104K16	C	3445(A,194,120)		CKSRYB103K50
C	3304(A,132,93)		CKSRYB104K16	C	3446(A,203,133)		CKSRYB103K50
C	3311(A,148,77)		CKSQYB104K50	C	4601(A,213,59)		CKSRYB103K50
C	3312(A,152,89)		CKSQYB104K50	C	4602(A,217,54)		CCSRCH221J50
C	3313(A,152,85)		CKSQYB104K50	C	4603(A,216,56)		CCSRCH221J50
C	3314(A,148,97)		CKSQYB104K50	C	4608(A,206,63)		CKSRYB104K16
C	3315(B,169,73)		CKSQYB333K50	C	4609(A,208,53)		CCSRCH220J50
C	3316(B,169,90)		CKSQYB333K50	C	4611(A,213,55)		CCSRCH470J50
C	3317(B,169,85)		CKSQYB333K50	C	4613(A,219,47)		CKSRYB104K16
C	3318(B,169,101)		CKSQYB333K50	C	4614(A,215,45)		CEAT101M16
C	3321(A,191,79)	ELECT. CAPACITOR	CEAT102M35	C	4615(A,214,42)		CKSRYB104K16
C	3322(A,191,96)	ELECT. CAPACITOR	CEAT102M35	C	4620(A,219,28)		CKSRYB104K16
C	3327(A,142,78)		CKSRYB104K50	C	4621(A,215,26)		CEAT101M16
C	3328(A,142,96)		CKSRYB104K50	C	4622(A,213,22)		CKSRYB104K16
C	3331(A,181,82)		CFTLA474J2A	C	4626(A,203,37)		CKSRYB103K50
C	3332(A,181,98)		CFTLA474J2A	C	4628(A,209,32)		CEAT101M16
C	3333(B,205,99)		CKSRYB104K50	C	4629(A,208,35)		CKSRYB103K50
C	3334(B,219,89)		CKSRYB104K50	C	5508(A,11,104)		CKSRYB103K50
C	3335(B,206,92)		CKSRYB104K50	C	5509(A,19,96)		CKSRYB104K16
C	3336(B,220,105)		CKSRYB104K50	C	5518(A,55,94)		CKSRYB103K50
C	3337(B,201,99)		CKSRYB103K50	C	5519(A,13,87)		CKSRYB103K50
C	3338(B,226,94)		CKSRYB103K50	C	5521(A,11,87)		CKSRYB103K50
C	3339(B,203,92)		CKSRYB103K50	C	5523(A,7,83)		CCSRCH101J50
C	3340(B,226,97)		CKSRYB103K50	C	5526(A,12,82)		CCSRCH101J50
C	3341(A,159,96)		CCSRCH331J50	C	5539(A,34,73)		CKSRYB104K16
C	3342(A,159,93)		CCSRCH331J50	C	5549(A,60,80)		CCSRCH470J50
C	3343(A,159,81)		CCSRCH331J50	C	5550(A,65,73)		CKSRYB104K16
C	3344(A,159,78)		CCSRCH331J50	C	5556(A,52,81)		CKSRYB104K16
C	3345(A,194,87)		CKSRYB103K50	C	5577(A,56,104)		CKSRYB103K50
C	3346(A,194,104)		CKSRYB103K50	C	5579(A,56,107)		CKSRYB103K50
C	3401(A,129,106)		CKSQYB105K16	C	5581(A,35,125)		CEAT101M16
C	3402(A,125,129)		CKSQYB105K16	C	5582(A,38,110)		CKSRYB104K16
C	3403(A,128,118)		CKSRYB104K16	C	5601(A,208,141)		CCSRCH101J50
C	3404(A,132,123)		CKSRYB104K16	C	5602(A,209,136)		CCSRCH101J50

Mark No.	Description	Part No.
C 5603	(A,206,148)	CCSRCH101J50
C 5604	(A,209,148)	CCSRCH101J50
C 5609	(A,211,141)	CCSRCH101J50
C 5610	(A,76,145)	CEAT101M16
C 5701	(B,177,12)	CCSRCH101J50
C 5703	(B,177,6)	CCSRCH101J50
C 5707	(B,177,10)	CKSRYB102K50
C 5708	(A,171,13)	CEAT470M16

RESISTORS

R 604	(A,100,11)	RS1/16S220J
R 605	(A,79,9)	RS1/16S101J
R 606	(A,88,9)	RS1/16S101J
R 607	(A,81,9)	RS1/16S470J
R 608	(A,100,9)	RS1/16S470J
R 610	(A,77,13)	RS1/16S220J
R 612	(A,100,13)	RS1/16S101J
R 616	(A,100,15)	RS1/16S103J
R 617	(A,84,22)	RS1/16S123J
R 618	(A,82,21)	RS1/16S220J
R 619	(A,80,21)	RS1/16S220J
R 801	(A,77,47)	RS1/16S470J
R 802	(A,79,55)	RAB4C101J
R 804	(A,75,54)	RS1/16S103J
R 805	(A,75,55)	RS1/16S103J
R 806	(A,75,57)	RS1/16S103J
R 807	(A,69,52)	RS1/16S473J
R 810	(A,50,38)	RS1/16S473J
R 811	(A,51,34)	RS1/16S101J
R 812	(A,51,33)	RS1/16S101J
R 813	(B,51,34)	RS1/16S472J
R 814	(A,51,31)	RS1/16S101J
R 815	(A,51,30)	RS1/16S101J
R 816	(A,51,28)	RS1/16S101J
R 817	(B,51,28)	RS1/16S103J
R 818	(A,63,16)	RS1/16S220J
R 821	(A,54,15)	RS1/16S471J
R 822	(A,57,15)	RS1/16S105J
R 823	(A,63,18)	RS1/16S101J
R 825	(A,67,20)	RS1/16S101J
R 829	(A,70,20)	RS1/16S473J
R 836	(A,81,37)	RS1/16S470J
R 837	(A,84,43)	RAB4C470J
R 852	(A,79,26)	RS1/16S222J
R 901	(A,121,6)	RS1/16S4701F
R 902	(A,118,9)	RS1/16S2701F
R 963	(A,92,56)	RS1/16S101J
R 964	(A,90,56)	RS1/16S101J
R 965	(A,91,38)	RAB4C101J
R 1301	(A,81,132)	RS1/16S473J
R 1302	(A,79,129)	RS1/10S561J
R 3001	(A,217,8)	RS1/16S331J
R 3002	(A,217,17)	RS1/16S331J
R 3003	(B,217,12)	RS1/16S104J
R 3004	(B,217,19)	RS1/16S104J
R 3007	(B,195,33)	RS1/16S0R0J
R 3008	(A,202,33)	RS1/16S473J
R 3009	(A,185,19)	RS1/16S0R0J
R 3011	(A,206,21)	RS1/16S273J
R 3012	(A,208,21)	RS1/16S273J
R 3013	(B,206,23)	RS1/16S223J
R 3014	(B,210,23)	RS1/16S223J
R 3019	(B,198,10)	RS1/16S473J
R 3020	(B,202,23)	RS1/16S473J
R 3021	(A,176,22)	RS1/16S224J
R 3022	(A,176,31)	RS1/16S224J
R 3023	(A,179,20)	RS1/16S100J
R 3024	(A,180,33)	RS1/16S100J
R 3025	(A,173,22)	RS1/16S0R0J
R 3029	(A,98,38)	RS1/16S101J
R 3030	(B,101,38)	RS1/16S101J
R 3041	(A,118,37)	RS1/16S0R0J
R 3043	(A,100,46)	RS1/16S0R0J
R 3045	(B,111,49)	RS1/16S0R0J
R 3048	(A,113,37)	RS1/16S0R0J
R 3049	(A,110,51)	RS1/16S101J
R 3050	(A,110,43)	RS1/16S101J
R 3051	(A,108,53)	RS1/16S101J
R 3052	(A,102,51)	RS1/16S470J
R 3053	(A,107,35)	RS1/16S102J
R 3101	(A,97,100)	RS1/16S221J
R 3102	(A,97,97)	RS1/16S221J
R 3103	(A,91,87)	RS1/16S4R7J
R 3104	(A,96,78)	RAB4C221J
R 3105	(A,91,83)	RS1/16S1R0J
R 3106	(A,102,71)	RS1/16S105J
R 3107	(A,106,74)	RAB4C470J
R 3108	(A,111,74)	RAB4C470J
R 3109	(A,115,74)	RS1/16S1R0J
R 3110	(A,116,84)	RS1/16S0R0J
R 3111	(A,104,104)	RS1/16S220J
R 3112	(A,99,101)	RS1/16S470J
R 3113	(A,93,87)	RS1/16S3R3J
R 3151	(A,89,70)	RAB4C472J
R 3152	(A,95,72)	RS1/16S103J
R 3153	(A,85,76)	RS1/16S0R0J
R 3154	(A,84,85)	RS1/16S0R0J
R 3155	(A,84,90)	RS1/16S0R0J
R 3182	(A,86,73)	RS1/16S0R0J
R 3191	(A,191,145) RESISTOR (0.1OHM, 2W)	ACN7112
R 3192	(A,180,144)	RS1/16S562J
R 3193	(A,178,147)	RS1/16S562J
R 3194	(A,179,144)	RS1/16S104J
R 3195	(A,179,147)	RS1/16S104J
R 3196	(A,184,141)	RS1/16S222J
R 3197	(A,193,143)	RS1/16S103J
R 3199	(A,191,140) RESISTOR (0.1OHM, 2W)	ACN7112
R 3200	(B,186,142)	RS1/10S3R3J
R 3201	(A,128,48)	RS1/16S102J
R 3202	(A,128,50)	RS1/16S102J
R 3203	(A,128,52)	RS1/16S102J
R 3204	(A,124,55)	RS1/16S221J
R 3205	(A,125,59)	RS1/16S103J
R 3207	(A,127,64)	RS1/16S473J
R 3208	(A,130,64)	RS1/16S472J
R 3210	(A,130,66)	RS1/16S101J
R 3211	(A,150,49) RESISTOR (2.7 OHM)	ACN7141
R 3212	(A,157,61) RESISTOR (2.7 OHM)	ACN7141
R 3213	(A,157,53) RESISTOR (2.7 OHM)	ACN7141
R 3214	(A,150,65) RESISTOR (2.7 OHM)	ACN7141

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	R 3215(B,169,43)	CHIP RESISTOR	RS1/8S1R5J		R 3411(A,150,109)	RESISTOR (2.7 OHM)	ACN7141
	R 3216(B,169,60)	CHIP RESISTOR	RS1/8S1R5J		R 3412(A,157,121)	RESISTOR (2.7 OHM)	ACN7141
A	R 3217(B,169,49)	CHIP RESISTOR	RS1/8S1R5J		R 3413(A,157,113)	RESISTOR (2.7 OHM)	ACN7141
	R 3218(B,169,70)	CHIP RESISTOR	RS1/8S1R5J		R 3414(A,150,125)	RESISTOR (2.7 OHM)	ACN7141
	R 3223(A,133,46)		RS1/10S821J		R 3415(B,169,104)	CHIP RESISTOR	RS1/8S1R5J
	R 3224(A,129,69)		RS1/10S821J		R 3416(B,169,125)	CHIP RESISTOR	RS1/8S1R5J
	R 3225(A,131,46)		RS1/10S821J		R 3417(B,169,115)	CHIP RESISTOR	RS1/8S1R5J
	R 3226(A,127,69)		RS1/10S821J		R 3418(B,169,132)	CHIP RESISTOR	RS1/8S1R5J
	R 3231(A,180,40)		RS1/10S472J		R 3423(A,133,106)		RS1/10S821J
	R 3232(A,180,56)		RS1/10S472J		R 3424(A,129,129)		RS1/10S821J
	R 3233(A,180,53)		RS1/10S472J		R 3425(A,131,106)		RS1/10S821J
	R 3234(A,180,69)		RS1/10S472J		R 3426(A,127,129)		RS1/10S821J
	R 3235(B,209,86)		RS1/16S1R0J		R 3431(A,180,106)		RS1/10S472J
B	R 3236(B,220,74)		RS1/16S1R0J		R 3432(A,180,122)		RS1/10S472J
	R 3237(B,212,74)		RS1/16S1R0J		R 3433(A,180,119)		RS1/10S472J
	R 3238(B,225,81)		RS1/16S1R0J		R 3434(A,180,135)		RS1/10S472J
	R 3240(A,155,67)		RS1/8S180J		R 3435(B,208,120)		RS1/16S1R0J
	R 3241(A,155,65)		RS1/8S180J		R 3436(B,227,111)		RS1/16S1R0J
	R 3242(A,155,49)		RS1/8S180J		R 3437(B,205,108)		RS1/16S1R0J
	R 3243(A,155,47)		RS1/8S180J		R 3438(B,219,124)		RS1/16S1R0J
	R 3301(A,128,78)		RS1/16S102J		R 3440(A,155,127)		RS1/8S180J
	R 3302(A,128,80)		RS1/16S102J		R 3441(A,155,125)		RS1/8S180J
	R 3303(A,128,82)		RS1/16S102J		R 3442(A,155,109)		RS1/8S180J
	R 3304(A,124,85)		RS1/16S221J		R 3443(A,155,107)		RS1/8S180J
C	R 3305(A,125,89)		RS1/16S103J		R 4601(A,216,58)		RS1/16S750J
	R 3307(A,127,94)		RS1/16S473J		R 4602(A,212,59)		RS1/16S473J
	R 3308(A,130,94)		RS1/16S472J		R 4603(A,208,55)		RS1/16S222J
	R 3310(A,130,96)		RS1/16S101J		R 4604(A,206,54)		RS1/16S0R0J
	R 3311(A,150,79)	RESISTOR (2.7 OHM)	ACN7141		R 4605(A,205,59)		RS1/16S0R0J
	R 3312(A,157,91)	RESISTOR (2.7 OHM)	ACN7141		R 4607(A,213,53)		RS1/16S331J
	R 3313(A,157,83)	RESISTOR (2.7 OHM)	ACN7141		R 4609(A,219,42)		RS1/16S221J
	R 3314(A,150,95)	RESISTOR (2.7 OHM)	ACN7141		R 4610(A,217,39)		RS1/16S104J
	R 3315(B,169,76)	CHIP RESISTOR	RS1/8S1R5J		R 4611(A,219,33)		RS1/16S221J
	R 3316(B,169,92)	CHIP RESISTOR	RS1/8S1R5J		R 4612(A,217,36)		RS1/16S104J
	R 3317(B,169,82)	CHIP RESISTOR	RS1/8S1R5J		R 4613(A,203,39)		RS1/16S102J
D							
	R 3318(B,169,99)	CHIP RESISTOR	RS1/8S1R5J		R 4614(A,210,45)		RS1/16S221J
	R 3323(A,133,76)		RS1/10S821J		R 4615(A,210,44)		RS1/16S221J
	R 3324(A,129,99)		RS1/10S821J		R 4616(A,205,47)		RS1/16S0R0J
	R 3325(A,131,76)		RS1/10S821J		R 4617(A,205,44)		RS1/16S0R0J
	R 3326(A,127,99)		RS1/10S821J		R 5502(A,17,104)		RS1/16S221J
	R 3331(A,180,73)		RS1/10S472J		R 5503(A,16,104)		RS1/16S221J
	R 3332(A,180,89)		RS1/10S472J		R 5504(A,14,104)		RS1/16S221J
	R 3333(A,180,86)		RS1/10S472J		R 5505(A,18,113)		RS1/16S103J
	R 3334(A,180,102)		RS1/10S472J		R 5507(A,17,108)		RS1/16S0R0J
	R 3335(B,205,101)		RS1/16S1R0J		R 5508(A,13,104)		RS1/16S222J
E							
	R 3336(B,223,91)		RS1/16S1R0J		R 5513(A,12,90)		RS1/16S473J
	R 3337(B,206,94)		RS1/16S1R0J		R 5515(A,13,90)		RS1/16S473J
	R 3338(B,227,100)		RS1/16S1R0J		R 5516(A,9,90)		RS1/16S473J
	R 3340(A,155,97)		RS1/8S180J		R 5517(A,7,87)		RS1/16S103J
	R 3341(A,155,95)		RS1/8S180J		R 5518(A,57,94)		RS1/16S221J
	R 3342(A,155,79)		RS1/8S180J		R 5519(A,12,87)		RS1/16S221J
	R 3343(A,155,77)		RS1/8S180J		R 5520(A,58,94)		RS1/16S103J
	R 3401(A,128,108)		RS1/16S102J		R 5521(A,9,87)		RS1/16S221J
	R 3402(A,128,110)		RS1/16S102J		R 5523(A,9,80)		RAB4C221J
	R 3403(A,128,112)		RS1/16S102J		R 5525(A,14,78)		RS1/16S221J
F	R 3404(A,124,115)		RS1/16S221J		R 5526(A,20,57)		RS1/16S103J
	R 3405(A,125,119)		RS1/16S103J		R 5527(A,22,65)		RS1/16S103J
	R 3407(A,127,124)		RS1/16S473J		R 5528(A,27,58)		RS1/16S103J
	R 3408(A,130,124)		RS1/16S472J		R 5529(A,24,56)		RS1/16S221J
	R 3410(A,130,126)		RS1/16S101J		R 5530(A,27,68)		RS1/16S221J

Mark	No.	Description	Part No.
R	5531(A,18,57)		RS1/16S103J
R	5532(A,29,68)		RS1/16S221J
R	5535(A,31,68)		RS1/16S221J
R	5536(A,33,68)		RS1/16S221J
R	5537(A,39,68)		RAB4C221J
R	5543(A,36,64)		RS1/16S103J
R	5544(A,40,64)		RS1/16S103J
R	5549(A,51,70)		RAB4C221J
R	5553(A,58,80)		RS1/16S473J
R	5554(A,60,82)		RS1/16S473J
R	5557(A,56,84)		RAB4C221J
R	5561(A,56,87)		RS1/16S102J
R	5562(A,56,90)		RAB4C221J
R	5567(A,61,92)		RS1/16S221J
R	5570(A,56,97)		RAB4C221J
R	5573(A,56,101)		RAB4C221J
R	5574(A,61,102)		RS1/16S103J
R	5575(A,64,102)		RS1/16S103J
R	5579(A,56,108)		RS1/16S221J
R	5584(A,42,115)		RAB4C221J
R	5592(A,36,116)		RAB4C221J
R	5594(A,26,115)		RS1/16S221J
R	5595(A,27,115)		RS1/16S221J
R	5596(A,29,115)		RS1/16S221J
R	5606(A,93,133)		RS1/16S0R0J
R	5608(A,102,134)		RS1/16S0R0J
R	5609(A,52,130)		RS1/16S561J
R	5610(A,50,130)		RS1/16S561J
R	5611(A,50,128)		RS1/16S473J
R	5612(A,46,128)		RS1/16S332J
R	5613(A,32,115)		RS1/16S221J
R	5614(A,48,130)		RS1/16S561J
R	5707(A,175,14)		RS1/16S471J
R	5708(B,167,11)		RS1/16S0R0J
R	5711(B,188,18)		RS1/16S272J
R	5712(B,192,18)		RS1/16S272J
R	5714(A,177,6)		RS1/16S0R0J
R	5715(A,177,13)		RS1/16S0R0J
R	5716(A,177,9)		RS1/16S0R0J
R	5717(A,177,12)		RS1/16S0R0J
R	5718(A,177,11)		RS1/16S0R0J
R	5801(A,78,119)		RS1/16S223J
R	5802(A,78,126)		RS1/16S151J
R	5803(A,80,119)		RS1/16S223J
R	5804(A,80,113)		RS1/16S223J
R	5805(A,76,113)		RS1/16S102J
R	5806(A,75,120)		RS1/16S223J
R	5951(A,210,131)		RS1/16S472J
R	5952(A,205,129)		RS1/16S102J
R	5953(A,204,132)		RS1/16S103J
R	5954(A,207,134)		RS1/16S104J
R	5955(A,211,133)		RS1/16S392J

OTHERS

JA	4601(A,232,58)	JACK	VKB1159
JA	4602(A,232,44)	OPT. LINK IN	GP1FAV51RKBF
JA	4603(A,232,30)	OPT. LINK IN	GP1FAV51RKBF
JA	5951(A,229,129)	JACK	RKN1004

Mark	No.	Description	Part No.
KN	1001(A,13,142)	EARTH METAL FITTING	VNF1109
KN	5501(A,13,14)	EARTH METAL FITTING	VNF1109
X	801 (A,57,11)	CRYSTAL RESONATOR (24.576 MHz)	XSS3003
X	3101(A,103,66)	CRYSTAL RESONATOR (13.5 MHz)	ASS7062
X	5501(A,10,94)	CERAMIC RESONATOR	ASS7034
CN	1001(A,85,141)	CONNECTOR	B11B-PH
CN	3201(A,166,144)	2P CONNECTOR	B2P-VH
CN	3211(A,232,98)	6CH SPEAKER JACK(V0)	AKE7116
CN	5601(A,232,143)	12P CONNECTOR	AKP7131
CN	5602(A,188,32)	CONNECTOR POST	B2B-PH
CN	5701(A,183,9)	CONNECTOR	9604S-11C
	3001(A,232,13)	PIN JACK(2P)	AKB7143

B AC INLET ASSY

CAPACITORS

C	2 (A,47 ,16)	CERAMIC CAPACITOR	ACG7059

OTHERS

⚠ AN1	(A,33 ,12)	AC INLET 1P	XKP3084
⚠ CN5	(A,75 ,31)	CONNECTOR	B2P3S-VH
1		C4 SOLDERING LUG	039-30040-000

C CONNECT ASSY

SEMICONDUCTORS

D	5651(B,67 ,58)	DIODE	UDZS8R2(B)
D	5652(B,63 ,51)	DIODE	UDZS8R2(B)
D	5653(B,66 ,51)	DIODE	UDZS8R2(B)
D	5654(B,69 ,51)	DIODE	UDZS8R2(B)
D	5655(B,62 ,58)	DIODE	UDZS8R2(B)
D	5657(B,65 ,58)	DIODE	UDZS8R2(B)

CAPACITORS

C	5651(B,96 ,60)		CKSRYB102K50
C	5652(B,56 ,55)		CKSRYB102K50
C	5653(B,71 ,47)		CKSRYB102K50
C	5654(B,34 ,51)		CKSRYB102K50

OTHERS

CN	5651(A,14 ,51)	13P PLUG	XKP3066
CN	5652(A,91 ,40)	12P CONNECTOR	AKP7131

D FL ASSY

SEMICONDUCTORS

IC	5901(B,184 ,47)	FL DRIVER IC	PT6315
Q	5901(B,168 ,41)	TRANSISTOR	2SC4081
Q	5902(B,178 ,29)	TRANSISTOR	2SC4081

COILS AND FILTERS

L	5901(A,152 ,44)	INDUCTOR	LFEA220J
L	5902(A,209 ,42)	RADIAL INDUCTOR	LFEA100J

Mark	No.	Description	Part No.
SWITCH AND RELAYS			
S	5961(A,111 ,15)	SWITCH	VSG1024
S	5962(A,236 ,16)	SWITCH	VSG1024
S	5963(A,252 ,16)	SWITCH	VSG1024
S	5964(A,269 ,16)	SWITCH	VSG1024
S	5965(A,285 ,16)	SWITCH	VSG1024
CAPACITORS			
C	5911(B,151 ,47)		CKSRYB223K50
C	5912(B,154 ,42)		CKSRYB223K50
C	5913(A,157 ,40)		CEAL470M6R3
C	5915(B,188 ,57)		CKSRYB103K50
C	5916(B,206 ,46)		CKSRYB223K50
C	5917(B,204 ,43)		CKSRYB223K50
C	5918(A,202 ,47)	ELECTR. CAPACITOR	CEAL470M35
C	5920(B,167 ,58)		CCSRCH221J50
C	5921(B,171 ,58)		CCSRCH221J50
C	5922(B,169 ,58)		CCSRCH221J50
C	5951(B,262 ,45)		CKSRYB223K50
C	5952(A,267 ,39)		CEAL470M6R3
RESISTORS			
R	5901(B,167 ,54)		RS1/16S221J
R	5902(B,171 ,54)		RS1/16S221J
R	5903(B,169 ,54)		RS1/16S221J
R	5904(B,176 ,55)		RS1/16S823J
R	5905(B,165 ,40)		RS1/16S102J
R	5906(B,172 ,29)		RS1/16S102J
R	5907(B,169 ,29)		RS1/16S473J
R	5908(B,182 ,29)		RS1/16S473J
R	5951(B,263 ,29)		RS1/16S470J
R	5954(B,263 ,37)		RS1/16S470J
R	5963(B,249 ,18)		RS1/16S222J
R	5964(B,268 ,20)		RS1/16S332J
R	5965(B,272 ,20)		RS1/16S562J
OTHERS			
V	5901(A,155 ,35)	FL TUBE	AAV7104
IC	5902(A,267 ,49)	REMOTE RECEIVER UNIT	GP1UM27XK0VF
CN5901	(A,203 ,22)	13P SOCKET	XKP3077
	2	FL SPACER	AEB7367
	3	FL SPACER	AEB7367

E POWER SUPPLY UNIT

This unit has no service part.

F FM/AM TUNER UNIT

This unit has no service part.

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

1. Conditions During Test Mode

- During Test mode, the unit will not be shut down for an emergency even if one of the failures mentioned below occurs.
- After the unit has been shut down in Normal mode for an emergency upon detection of one of the failures mentioned below, you can turn it on immediately, without waiting for one minute, in Test mode.

2. How to enter Test mode

- During Standby mode, hold the AUDIO INPUT and STANDBY/ON keys on the Display unit pressed for 3 seconds.
- Test mode can also be entered in either of the following ways:
  1. Turn on the power with the STEST port (microcomputer terminal IC5501: 43-pin) at High (5 V). (See "Test mode connecting point".)
  2. Turn on the power while holding both the AUDIO INPUT and STANDBY/ON keys on the Display unit pressed.

  Note: If the power cord was disconnected immediately before, be sure to wait at least one minute before turning on the power in the manner mentioned above. Otherwise, the unit may not operate properly.

3. How to quit Test mode, and conditions for quitting

- To quit Test mode, turn the power off to turn the power off.
- When Test mode is quit, only data on failure in RAM will be initialized, and data on user settings in RAM will not be initialized.

4. Indications on the FL display when Test mode is entered

- The function setting will be DVD/DVR1.
- The indication on the FL display when Test mode is entered will differ depending on whether the unit was shut down normally or with an abnormality detected, as shown below:
- ADV mode will become 5-channel STEREO so that multichannel output can be obtained.

[After a normal power-off]

FL display `POWER ON` ⇩ FL display `VOL 0` ⇩ FL display `DV1 SERV`

[After a shutdown caused by over current detection]

FL display `OC ERROR` ⇩ FL display `VOL 0` ⇩ FL display `DV1 SERV`

[After a shutdown caused by an EEPROM failure]

FL display `EEP ERR` ⇩ FL display `VOL 0` ⇩ FL display `DV1 SERV`

[After a shutdown caused by high-temperature detection]

FL display `OVERTEMP` ⇩ FL display `VOL 0` ⇩ FL display `DV1 SERV`

5. Operations during Test Mode

- Basically, operations in Test mode are the same as in Normal mode. However, to indicate that the unit is in Test mode, the following are displayed when the functions are changed:

• Excepting North America

[Functions]	[FL display]
DVD/DVR1	DV1 SERV
DVD/DVR2	DV2 SERV
DIGITAL	DIG SERV
ANALOG	ANA SERV
FM/AM	TX SERV

• North America

[Functions]	[FL display]
DVD	DVD SERV
DTV	DTV SERV
PC/GAME	PC SERV
AUX	AUX SERV
TUNER	TX SERV

6. Failures

• Depending on the types of errors, one of the following error messages will be displayed when the unit is turned on:

E E P E R R

1. Breakage or short-circuiting of the communication line to the EEPROM can be suspected.
2. A failure in the EEPROM can be suspected.

O C E R R O R

- If "OC ERROR" is not displayed when the unit is turned on in Normal mode, short-circuiting of the speaker terminals can be suspected.
- If "OC ERROR" is displayed again when the unit is turned on in Normal mode, the following causes can be suspected:
  1. One or more of the ICs among the three digital amplifier ICs (IC3201, IC3301, and IC3401: TAS5122DCA) on the MAIN Assy is in failure.
  2. The line between one of the above digital amplifier ICs and the speaker terminals is short-circuited.
  3. The XSD line from one of the above digital amplifier ICs to the system-control IC (PDC128A) is short-circuited by grounding or is broken.

O V E R T E M P

- If "OVERTEMP" is not displayed when the unit is turned on in Normal mode, the unit is normal. (It is likely that this was a temporary temperature rise, lower the volume of the speakers.)
- If "OVERTEMP" is displayed again when the unit is turned on in Normal mode, the following causes can be suspected:
  1. One or more of the ICs among the three digital amplifier ICs (IC3201, IC3301, and IC3401: TAS5122DCA) on the MAIN Assy is in failure.
  2. The OTW line from one of the above digital amplifier ICs to the system-control IC (PDC128A) is short-circuited by grounding or is broken.

7. DSP error display

• Each time the SOUND key on the remote control unit is pressed while the power is on, the DSP error display and the normal display are alternately switched.

8. Accumulated power-on time display and speaker setting display

• If the AUDIO INPUT key on the main unit is held pressed for 8 seconds while the power is on, the accumulated power-on time display and the speaker-setting display will be alternately switched at intervals of 3 seconds.

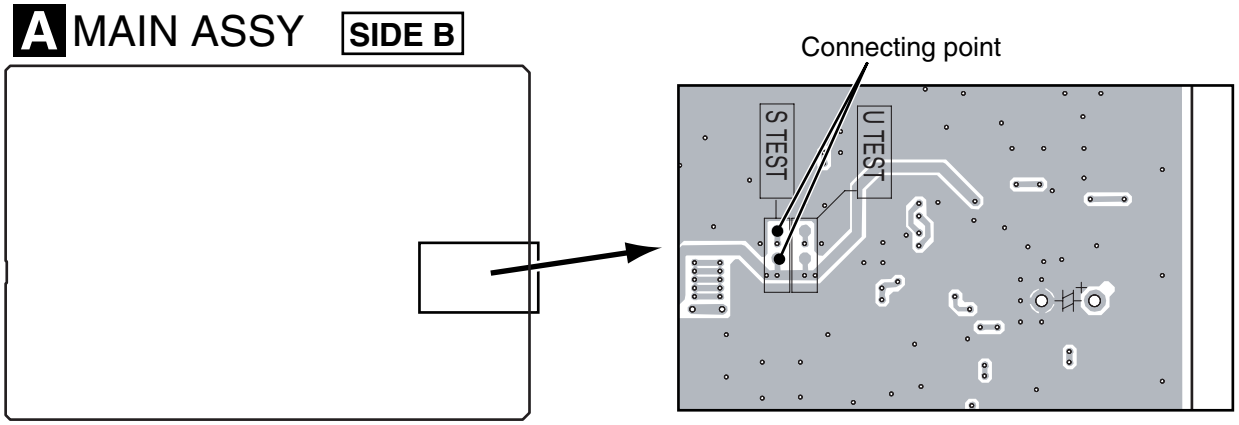
Speaker-setting display **T A L L S P**

⇧ ⇩ At intervals of 3 seconds

Accumulated power-on time display **1 0 H 3 0 M**

- Power-on time is always counted while the power is on, regardless of unit's functions and operations. However, it is not counted during Standby mode.
- The maximum countable power-on time is 255H59M (255 hours 59 minutes.) The indication will not advance beyond that.
- The accumulated power-on time basically cannot be cleared.

■ Test Mode connecting point



7.1.2 SPECIFICATIONS OF SPEAKER SETUP

1. Overview

Several types of speakers are planned to be used with this product, and according to speaker type, the sound-quality parameters to be sent to the Digital Amplifier section are different. Since the parameters for the planned speaker types have been written in the EEPROM, by simply selecting the speaker type, as shown below, speaker setting is completed.

2. How to select the settings

1. While holding the VOL+ and STANDBY/ON keys on the Display unit pressed, connect the power cord to the wall outlet.
   Note: If the power cord was disconnected immediately before, be sure to wait at least one minute before turning on the power in this way. Otherwise, the unit may not operate properly.

   Or, during Standby mode, hold the VOL+ and STANDBY/ON keys pressed for 3 seconds.

2. The power comes on; then the following indication appears.

S	P	.		T	Y	P	E

3. Press the key corresponding to the speaker to be used to determine the setting. The power will automatically be turned off.

VOL- key	R	E	G	U	L	A	R	1
VOL+ key		T	A	L	L		S	P
AUDIO INPUT key		N	X	T			S	P
SURROUND key	R	E	G	U	L	A	R	2
STANDBY/ON key	A	V		G	A	T	E	

▢ : Flashing

Note: Be sure to select the setting corresponding to the model number of the speaker. (See the table below.)

Destination	Model Number	Speaker	Remarks	Speaker setting
Europe	SX-SW55/WYXCN, /WVXCN SX-SW77/WYXCN, /WVXCN	SMALL1 TALL		REGULAR1 TALL
North America	SX-SW950/KUXCN	NXT		NXT
Japan	SX-06SW/JJXCN SX-E230SW/JJXCN	AV GATE TALL	AV rack with SP	AV GATE TALL
General	SX-SW100/TDLPWXCN	SMALL2 TALL		REGULAR2 REGULAR2
China	SX-SW100/NAXCN	TALL		TALL

3. How to confirm the speaker setting

1. While holding the AUDIO INPUT and STANDBY/ON keys on the Display unit pressed, connect the power cord to the wall outlet.
   Note: If the power cord was disconnected immediately before, be sure to wait at least one minute before turning on the power in this way. Otherwise, the unit may not operate properly.

   Or, during Standby mode, hold the AUDIO INPUT and STANDBY/ON keys pressed for 3 seconds.

2. Enter Service/Test mode.

3. Hold the AUDIO INPUT key pressed for 8 seconds.

4. The setting is displayed.

	T	A	L	L		S	P
U	N	K	N	O	W	N	

5. If no setting has been written in the EEPROM, "UNKNOWN" is displayed. In this case, the unit will operate in the same way as if "REGULAR 1" (satellite) were set.

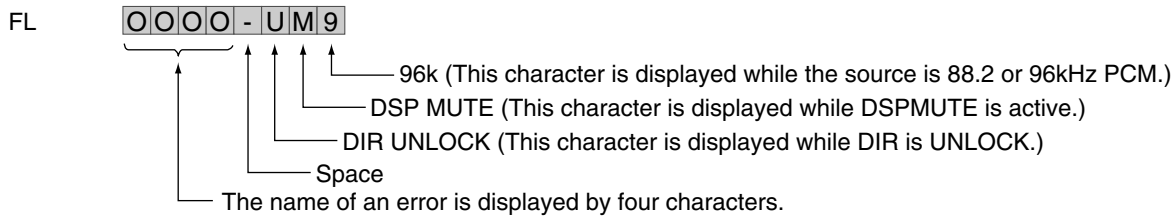
4. Error indication

When the unit is turned on without any speaker setting, a warning "NO SPTYP" will be displayed. Even with this warning displayed, all key operation is possible. After a key operation, the display will return to this warning indication.

N	O		S	P	T	Y	P

7.1.3 PROPOSAL OF DSP ERROR DISPLAY

• Specification of DSP error display


FL
OOOO - UM9
96k (This character is displayed while the source is 88.2 or 96kHz PCM.)
DSP MUTE (This character is displayed while DSPMUTE is active.)
DIR UNLOCK (This character is displayed while DIR is UNLOCK.)
Space
The name of an error is displayed by four characters.

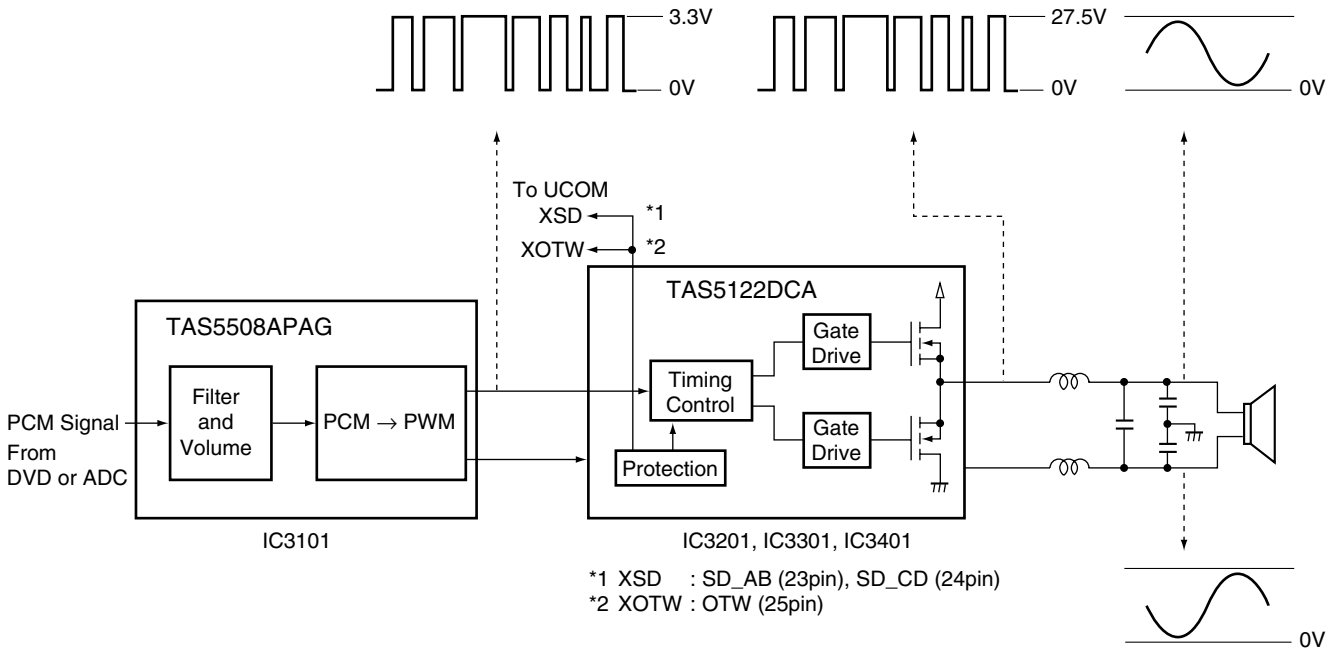
Example)

ERR. 0	DIER-UM	Data cannot be received from DIR. → DIR is assumed to be in failure.
ERR. 1	DSER-UM	Data cannot be received from DSP. → Communication between DIR and DSP is in failure. → DSP is assumed to be in failure.
ERR. 2	HREQ-UM	No value is returned from HREQ. → DSP is assumed to be in failure.
ERR. 3	DSNG-UM	There are DSP error data. → Communication between DIR and DSP is in failure. → DSP is assumed to be in failure.
ERR. 4	DMUT- M	DECMUTE is always activated. → Communication between DIR and DSP is in failure. → DSP is assumed to be in failure.
NO ERR (The source is 88.2/96kHz.)	DSOK- 9	96-kHz source data are being played back.
NO ERR (The source is 88.2/96kHz.)	DSOK-	No abnormality

• DSP error message mode

Press the "SOUND" key in test mode, to select the mode that DSP error messages are displayed.
Press the "SOUND" key again to select the normal test mode.
For this reason, make the usual function of "SOUND" not effective in the test mode.

7.1.4 CIRCUIT DESCRIPTION OF DIGITAL AMP. SECTION



PWM Processor section

The PCM signals output from the DVD decoder or AD converter are input to this section, and their volume and sound quality are digitally adjusted. At the output stage, after conversion from PCM to PWM, the signals are output to the Power stage.

Power Stage section

In this section, timing is controlled so that the MOSFETs on the high and low sides will not be turned on simultaneously. The voltage of the PWM signals are raised to drive the gates of the MOSFET, and the PWM signals to drive the speakers are output from the MOSFET at the output stage. Detection and protection functions against short-circuiting of the output signals and temperature exceeding the standard value are also provided.

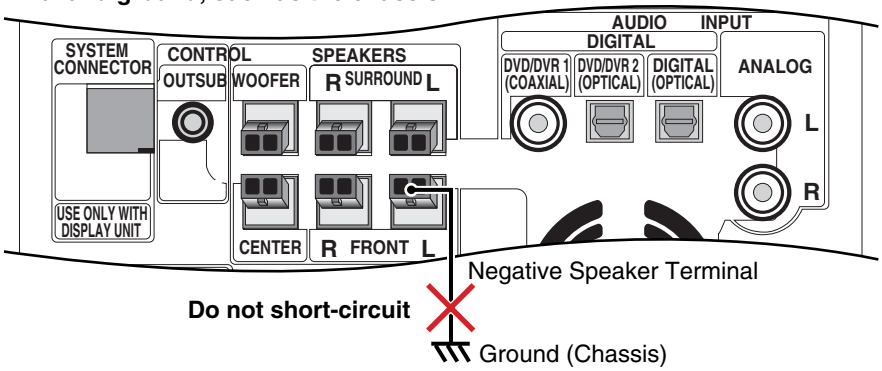
If the detection and protection work, the ports of the power stage ICs become the following state.

Power Stage ICs No.	Protection Enable State
IC3201	SD_AB (23pin) ⇒ L
IC3301	SD_CD (24pin) ⇒ L
IC3401	OTW (25pin) ⇒ L

Output LPF section

The carrier elements, high-frequency signals that are unnecessary for these speakers, are eliminated. The signals passed through the LPF will become sine-wave signals, as shown in the figure above.

Attention :
As a signal to drive the BTL is output from the negative speaker terminal, DO NOT short-circuit between the negative speaker terminal and ground, such as the chassis.



7.1.5 SPECIFICATIONS FOR THE PROTECTION CIRCUITS FOR THE DIGITAL AMPLIFIER

The protection circuits for the Digital Amplifier are activated, following the specifications shown below. The error indication on the FL display shows the reason a protection circuit was activated.
Upon diagnosis of the Digital Amplifier, refer to the specifications for the protection circuits here and the overview of the Digital Amplifier circuitry.

1. Overview

The system microcomputer monitors the ports for shutdown requests (Pin 23:SD_AB and Pin 24: SD_CD) and the ports for abnormal-temperature detection (Pin 25: /OTW) of the Power Stage ICs (IC3201, IC3301, and IC3401). As soon as any abnormality is detected, it shuts the unit down.
To notify the user of the possibility of a too high a volume, when the unit is turned on the next time, the volume level will be set to 0, and an error message will be displayed on the FL display.

2. Ports on the system microcomputer to be used for detection

Pin 77: SHUTDOWN
Low voltage at this pin means overcurrent or voltage too low (= V+B27) at a Power Stage IC.

Pin 79: XOTW
Low voltage at this pin means the temperature at the Power Stage ICs exceeded 125°C.

Note: As one Power Stage IC is provided with two channels, three Power Stage ICs (in total 6 channels) are mounted in this unit. For abnormality detection, the unit implements a logical OR operation regarding these three ICs. Therefore, which IC is abnormal cannot be known directly. To find which IC is abnormal, it is required to check whether abnormality detection is activated or not with the abnormality detection port of each IC open (by temporarily removing a series resistor (IC3201:R3201-R3203, IC3301:R3301-R3303, IC3401:R3401-R3403)).

3. Detection timing

Start : Detection starts 500 ms after the PWRCONT 2 port (Pin 84) of the system microcomputer becomes active by your pressing the STANDBY/ON key.

Finish : When the STANDBY/ON key is pressed again (when the power-off process starts).

4. Operation of the protection circuits

The following three protection circuits are activated when the conditions shown below are met:

Overcurrent detection: Indication on the FL display: OC ERROR
Conditions: If the SHUTDOWN ports, which are monitored every 10 ms, become low 7 out of 10 times. (If they become low 7 times in succession, the conditions are met at that point.)

Abnormal temperature detection 1: Indication on the FL display: OVERTEMP
Conditions: If the XOTW ports, which are monitored every 10 ms, become low in succession for one minute.

Abnormal temperature detection 2: Indication on the FL display: OVERTEMP
(Prerequisite: The XOTW ports, which are monitored every 10 ms, become low three times in succession.)
Conditions: The above prerequisite is upheld, and the conditions for an overcurrent detection are met.

5. Process when the protection circuits are activated

The unit is shut down within 30 ms after abnormality detection then the volume level is set to 0. The unit can be turned on immediately after the shutdown.

7.1.6 CONDITIONS FOR SWITCHING THE ROTATION SPEED OF THE FAN

A fan is provided with this unit. Its rotation speed can be switched between low and high under the following conditions.

1. Conditions for switching the rotation speed from low to high

In a case where an audio signal is input and the main volume becomes VOL 20 or more
- The rotation speed is not switched to high immediately after the main volume becomes VOL 20 but with a delay of 30 seconds.
- If a digital stream signal is not input, the rotation speed is not switched to high even if the main volume becomes VOL 20 or more.
- If the function is ANALOG IN, even if there is no audio signal input, 30 seconds after the main volume becomes VOL 20 or more, the rotation speed is switched to high.

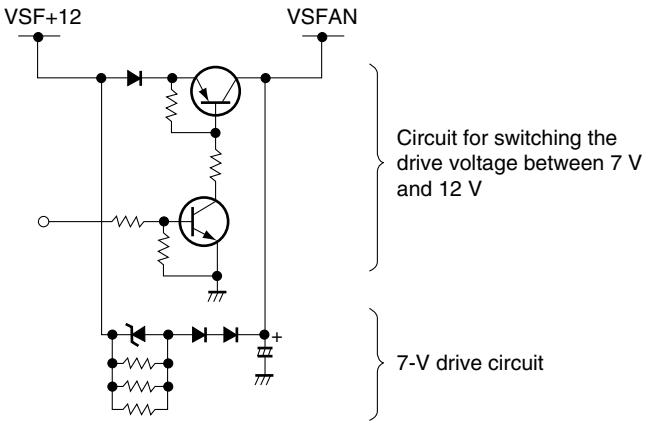
2. Conditions for switching the rotation speed from high to low

- If the main volume becomes less than VOL 20
- During muting
- If a digital stream signal is not input

Note: The rotation speed is immediately switched to low when one of the above conditions is met.

3. Fan drive circuit and drive voltage

The fan drive circuit and the drive voltages at low/high rotation speed are shown below:



	Power	Voltage (V)
Low speed, no digital stream signal (except when the function setting is ANALOG IN)	VSF+12	12.3
	VSFAN	6.7
Low speed, with audio input, with VOL 19 or less	VSF+12	13.1
	VSFAN	7.4
High speed, with VOL 20 or more	VSF+12	13.0
	VSFAN	12.2

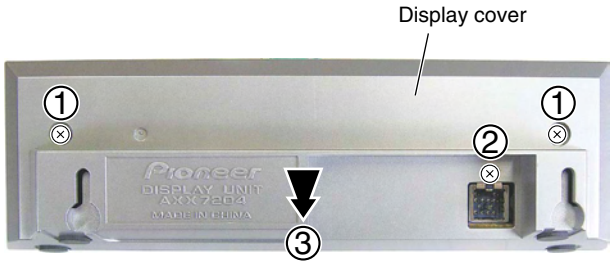
Note: The above voltage values are references. They differ from product to product.

7.1.7 DISASSEMBLY

Note 1: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

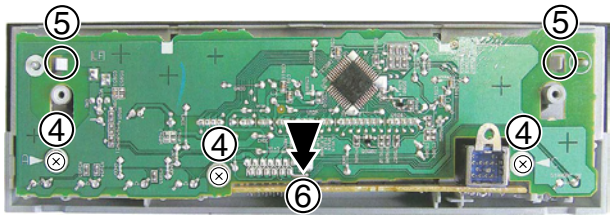
1 DISPLAY Unit

① Remove the two screws.
② Remove the one screw.
③ Remove the display cover.

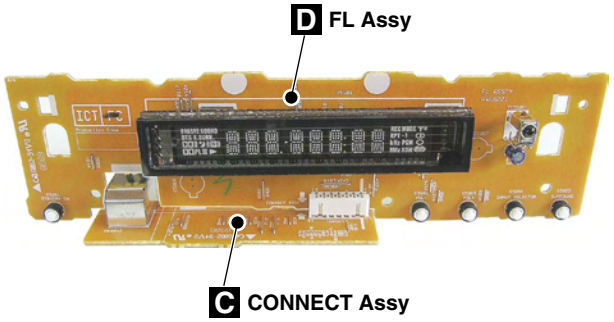


● **Rear view**

④ Remove the three screws.
⑤ Unhook the two hooks.
⑥ Remove the FL and CONNECT Assys.



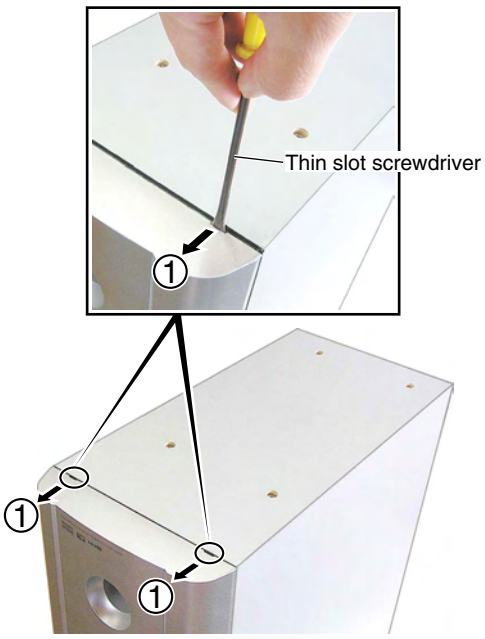
● **Rear view**



2 Cosmetic Baffle

① Insert a thin slot screwdriver into the gap between the cosmetic baffle and main housing and gently pry the baffle away.

Note: To avoid damage, alternately pry at two points, as shown in the photo below, little by little, not in a single motion.



● **Bottom view**

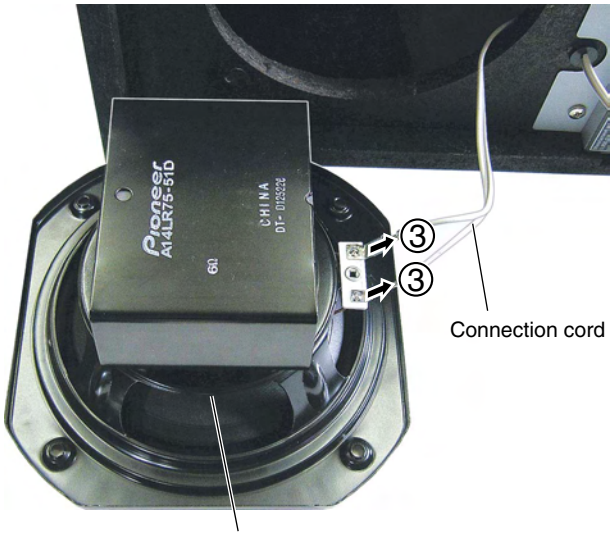
② Remove the cosmetic baffle.

3 Speaker

① Remove the four screws.
② Remove the speaker.

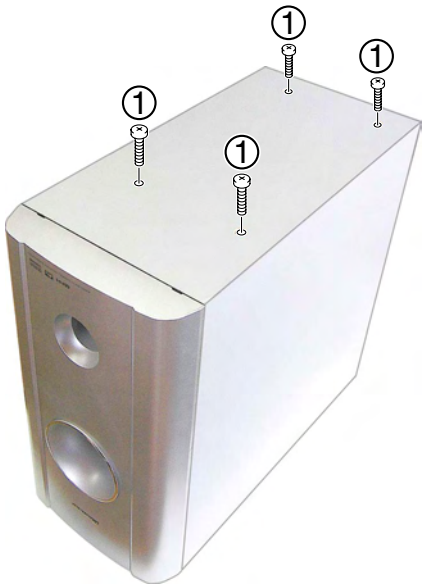
● **Rear view**

③ Disconnect the connection cord.



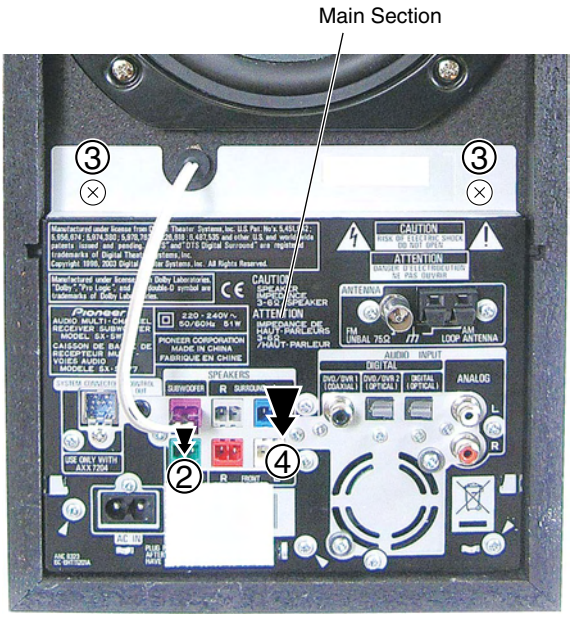
4 Main Section

① Remove the four screws.



● **Bottom view**

② Disconnect the connection cord.
③ Remove the two screws.
④ Pull out the Main Section.



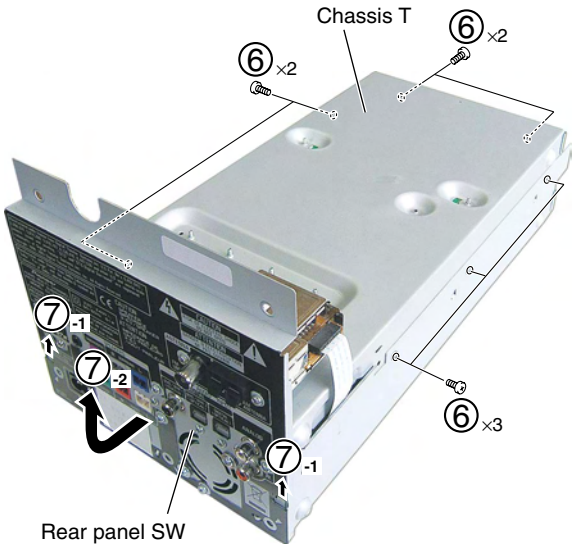
● **Rear view**

⑤ Remove the three screws.

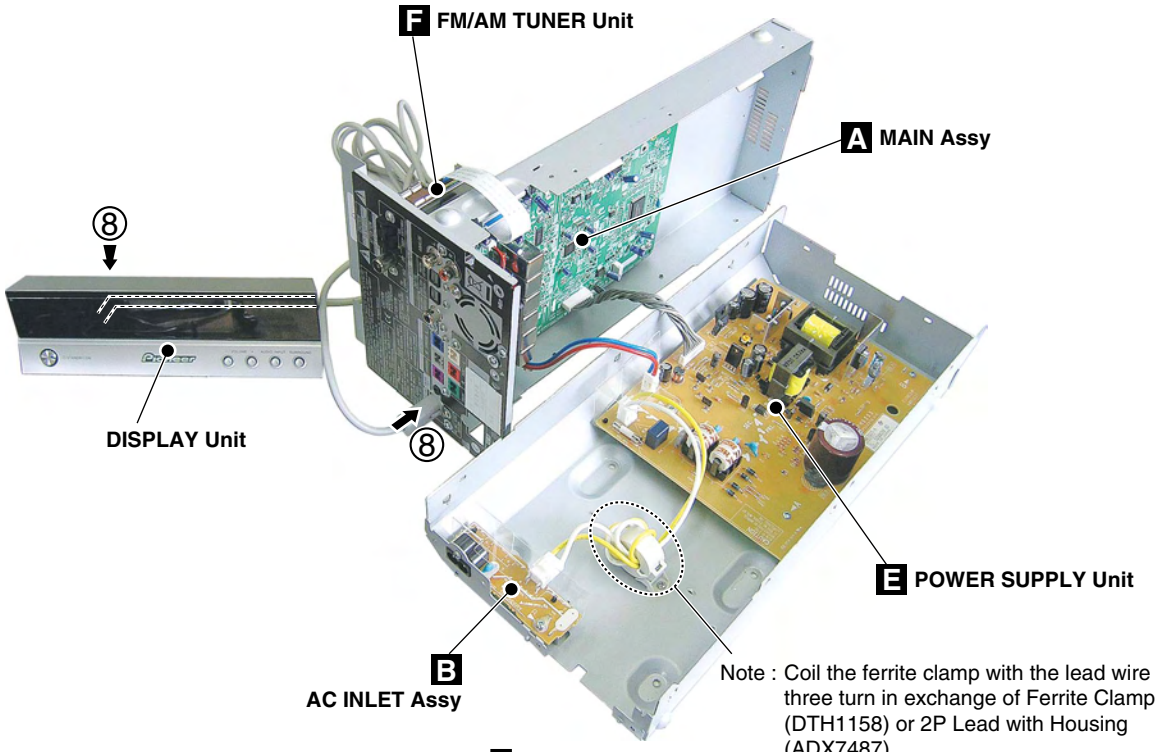
● Rear view

⑥ Remove the seven screws.

⑦ Remove the chassis T with rear panel SW by unhooking the two hooks.



⑧ Connect the DISPLAY Unit.



Note : Coil the ferrite clamp with the lead wire three turn in exchange of Ferrite Clamp (DTH1158) or 2P Lead with Housing (ADX7487).
EMC is not good when does not coil it.

Diagnosis

7.2 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

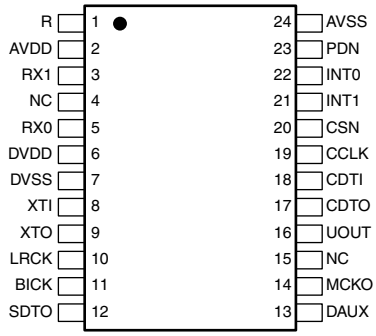
● **List of IC**

AK4117VF, DSPC56371AF180, PCM1803DB, TAS5508APAG, TAS5112ADCA, PDC128A, BR93L46RFJ-W, BU1924FS, PT6315

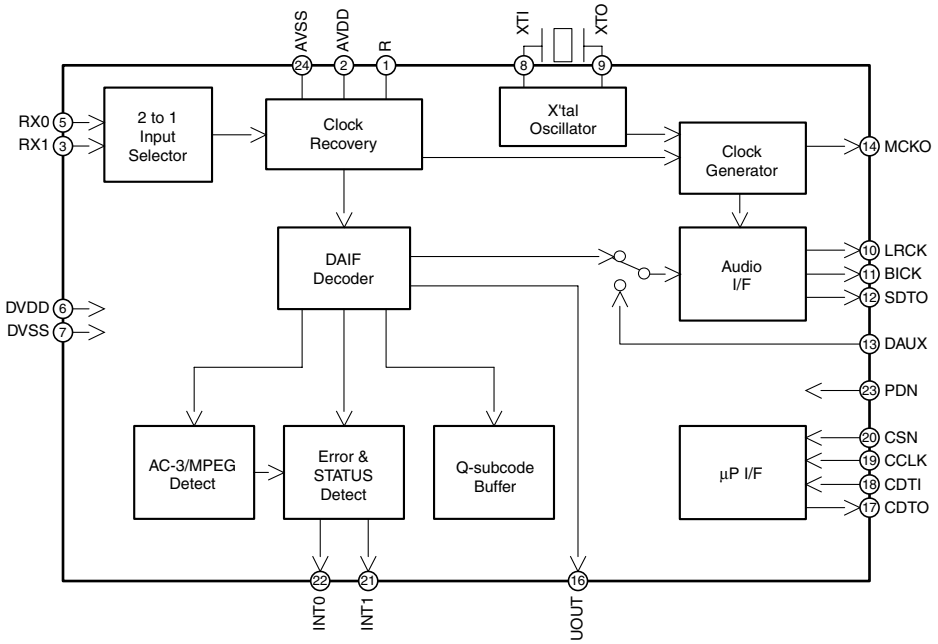
■ AK4117VF (MAIN ASSY : IC601)

• Low Power 192 kHz Digital Audio Receiver

● **Pin Arrangement (Top view)**



● **Block Diagram**



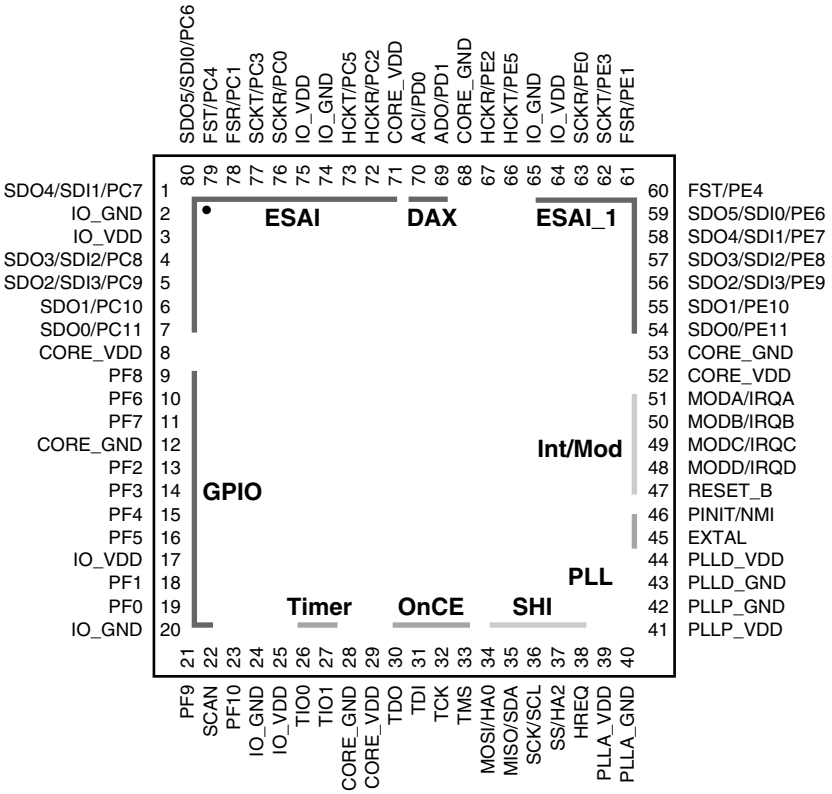
● **Pin Function**

No.	Pin Name	I/O	Pin Function
1	R	–	External Resistor Pin 12Ω-5% ~ 13Ω+5% resistor to AVSS externally.
2	AVDD	–	Analog Power Supply Pin
3	RX1	I	Receiver Channel 1 (Internal Biased Pin)
4	NC	–	No Connect
5	RX0	I	Receiver Channel 0 (Internal Biased Pin)
6	DVDD	–	Digital Power Supply Pin
7	DVSS	–	Digital Ground Pin
8	XTI	I	X'tal Input Pin
9	XTO	O	X'tal Output Pin
10	LRCK	O	Output Channel Clock Pin
11	BICK	O	Audio Serial Data Clock Pin
12	SDTO	O	Audio Serial Data Output Pin
13	DAUX	I	Auxiliary Audio Data Input Pin
14	MCKO	O	Master Clock Output Pin
15	NC	–	No Connect
16	UOUT	O	U-bit Output Pin When UOUTE bit = "0", UOUT pin = "L".
17	CDTO	O	Control Data Output Pin
18	CDTI	I	Control Data Input Pin
19	CCLK	I	Control Data Clock Pin
20	CSN	I	Chip Select Pin
21	INT1	O	Interrupt 1 Pin
22	INT0	O	Interrupt 0 Pin
23	PDN	I	Power-Down & Reset Pin When "L", the AK4117 is powered-down and reset, and all output pins go to "L" and the control registers are reset to default state.
24	AVSS	–	Analog Ground Pin

■ DSPC56371AF180 (MAIN ASSY : IC801)

• DSP IC

● Pin Arrangement (Top view)



● Pin Functions

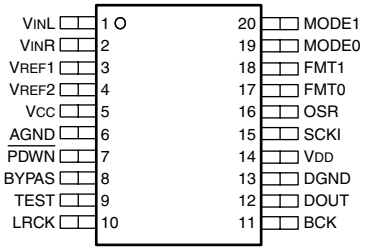
No.	Pin Name	I/O	Pin Function
1	SDO4/SDI1/PC7	I/O	Serial Data Output 4/Serial Data Input 1/Port C7
2	IO_GND	–	I/O ground
3	IO_VDD	–	I/O power supply (3.3V)
4	SDO3/SDI2/PC8	I/O	Serial Data Output 3/Serial Data Input 2/Port C8
5	SDO2/SDI3/PC9	I/O	Serial Data Output 2/Serial Data Input 3/Port C9
6	SDO1/PC10	I/O	Serial Data Output 1/Port C10
7	SDO0/PC11	I/O	Serial Data Output 0/Port C11
8	CORE_VDD	–	Core power supply (1.25V)
9	PF8	I/O	Port F8
10	PF6	I/O	Port F6
11	PF7	I/O	Port F7
12	CORE_GND	–	Core ground
13	PF2	I/O	Port F2
14	PF3	I/O	Port F3
15	PF4	I/O	Port F4
16	PF5	I/O	Port F5
17	IO_VDD	–	I/O power supply (3.3V)
18	PF1	I/O	Port F1
19	PF0	I/O	Port F0
20	IO_GND	–	GPIO I/O Ground
21	PF9	I/O	Port F9
22	SCAN	I	SCAN-Manufacturing test pin. This pin should be pulled low.
23	PF10	I/O	Port F10
24	IO_GND	–	I/O ground

No.	Pin Name	I/O	Pin Function
25	IO_VDD	–	I/O power supply (3.3V)
26	TIO0	I/O	Timer 0 Schmitt-Trigger Input/Output
27	TIO1	I/O	Timer 1 Schmitt-Trigger Input/Output
28	CORE_GND	–	Core ground
29	CORE_VDD	–	Core power supply (1.25V)
30	TDO	O	Test Data Output
31	TDI	I	Test Data Input
32	TCK	I	Test Clock
33	TMS	I	Test Mode Select
34	MOSI/HA0	I/O	SPI Master-Out-Slave-In/2C Slave Address 0 input
35	MISO/SDA	I/O	SPI Master-In-Slave-Out/I2C Data and Acknowledge
36	SCK/SCL	I/O	SPI Serial Clock/I2C Serial Clock
37	SS/HA2	I	SPI Slave Select/I2C Slave Address 2
38	HREQ	I/O	Host Request
39	PLLA_VDD	–	PLL power supply (3.3V)
40	PLLA_GND	–	PLL ground
41	PLLP_VDD	–	PLL power supply (3.3V)
42	PLLP_GND	–	PLL ground
43	PLLD_GND	–	PLL ground
44	PLLD_VDD	–	PLL power supply (1.25V)
45	EXTAL	I	External Clock Input
46	PINIT/NMI	I	PLL Initial/Nonmaskable Interrupt
47	RESET_B	I	Reset
48	MODD/IRQD	I	Mode Select D/External Interrupt Request D
49	MODC/IRQC	I	Mode Select C/External Interrupt Request C
50	MODB/IRQB	I	Mode Select B/External Interrupt Request B
51	MODA/IRQA	I	Mode Select A/External Interrupt Request A
52	CORE_VDD	–	Core power supply (1.25V)
53	CORE_GND	–	Core ground
54	SDO0/PE11	I/O	Serial Data Output 0/Port E11
55	SDO1/PE10	I/O	Serial Data Output 1/Port E10
56	SDO2/SDI3/PE9	I/O	Serial Data Output 2/Serial Data Input 3/Port E9
57	SDO3/SDI2/PE8	I/O	Serial Data Output 3/Serial Data Input 2/Port E8
58	SDO4/SDI1/PE7	I/O	Serial Data Output 4/Serial Data Input 1/Port E7
59	SDO5/SDI0/PE6	I/O	Serial Data Output 5/Serial Data Input 0/Port E6
60	FST/PE4	I/O	Frame Sync for Transmitter/Port E4
61	FSR/PE1	I/O	Frame Sync for Receiver/Port E1
62	SCKT/PE3	I/O	Transmitter Serial Clock/Port E3
63	SCKR/PE0	I/O	Receiver Serial Clock/Port E0
64	IO_VDD	–	I/O power supply (3.3V)
65	IO_GND	–	I/O ground
66	HCKT/PE5	I/O	High Frequency Clock for Transmitter/Port E5
67	HCKR/PE2	I/O	High Frequency Clock for Receiver/Port E2
68	CORE_GND	–	Core ground
69	ADO/PD1	I/O	Digital Audio Data Output/Port D1
70	ACI/PD0	I/O	Audio Clock Input/Port D0
71	CORE_VDD	–	Core power supply (1.25V)
72	HCKR/PC2	I/O	High Frequency Clock for Receiver/Port C2
73	HCKT/PC5	I/O	High Frequency Clock for Transmitter/Port C5
74	IO_GND	–	I/O ground
75	IO_VDD	–	I/O power supply (3.3V)
76	SCKR/PC0	I/O	Receiver Serial Clock/Port C0
77	SCKT/PC3	I/O	Transmitter Serial Clock/Port C3
78	FSR/PC1	I/O	Frame Sync for Receiver/Port C1
79	FST/PC4	I/O	Frame Sync for Transmitter/Port C4
80	SDO5/SDI0/PC6	I/O	Serial Data Output 5/Serial Data Input 0/Port C6

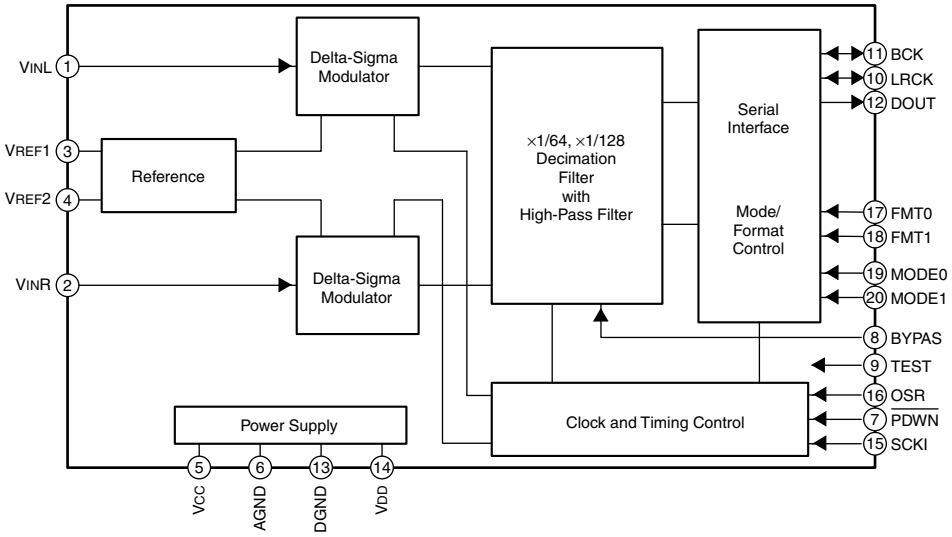
■ PCM1803DB (MAIN ASSY : IC3003)

• Single-ended, Analog-input 24-bit, 96-kHz Stereo A/D Converter

● Pin Arrangement (Top view)



● Block Diagram



● Pin Function

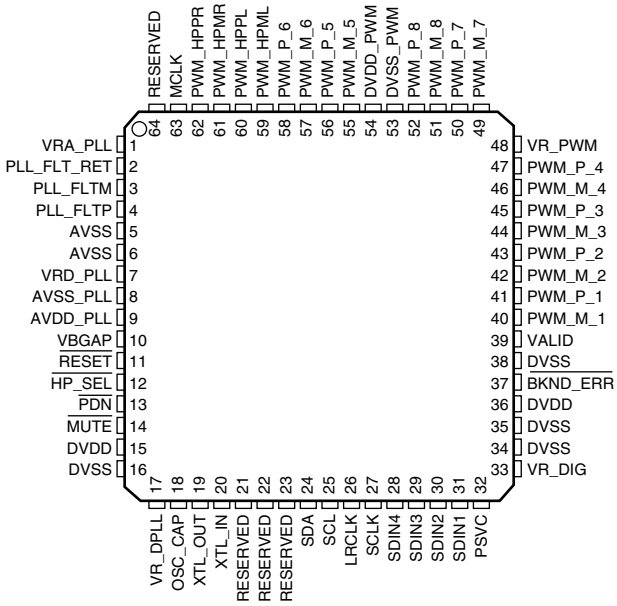
No.	Pin Name	I/O	Pin Function
1	VINL	I	Analog input, L-channel
2	VINR	I	Analog input, R-channel
3	VREF1	–	Reference-voltage-1 decoupling capacitor
4	VREF2	–	Reference-voltage-2 decoupling capacitor
5	VCC	–	Analog power supply, 5-V
6	AGND	–	Analog GND
7	$\overline{\text{PDWN}}$	I	Power-down control, active-low (2)
8	BYPAS	I	HPF bypass control. LOW: Normal mode (dc reject); HIGH: Bypass mode (through)(2)
9	TEST	I	Test, must be connected to DGND (2)
10	LRCK	I/O	Audio data latch enable input/output (1)
11	BCK	I/O	Audio data bit clock input/output (1)
12	DOUT	O	Audio data digital output
13	DGND	–	Digital GND
14	VDD	–	Digital power supply, 3.3-V
15	SCKI	I	System clock input: 256 fs, 384 fs, 512 fs or 768 fs (3)
16	OSR	I	Oversampling ratio select input. LOW: ×64 fs, HIGH: ×128 fs (2)
17	FMT0	I	Audio data format select input 0 (2)
18	FMT1	I	Audio data format select input 1 (2)
19	MODE0	I	Mode select input 0 (2)
20	MODE1	I	Mode select input 1 (2)

(1) Schmitt-trigger input
(2) Schmitt-trigger input with internal pulldown (50 kohm typically), 5-V tolerant
(3) Schmitt-trigger input, 5-V tolerant

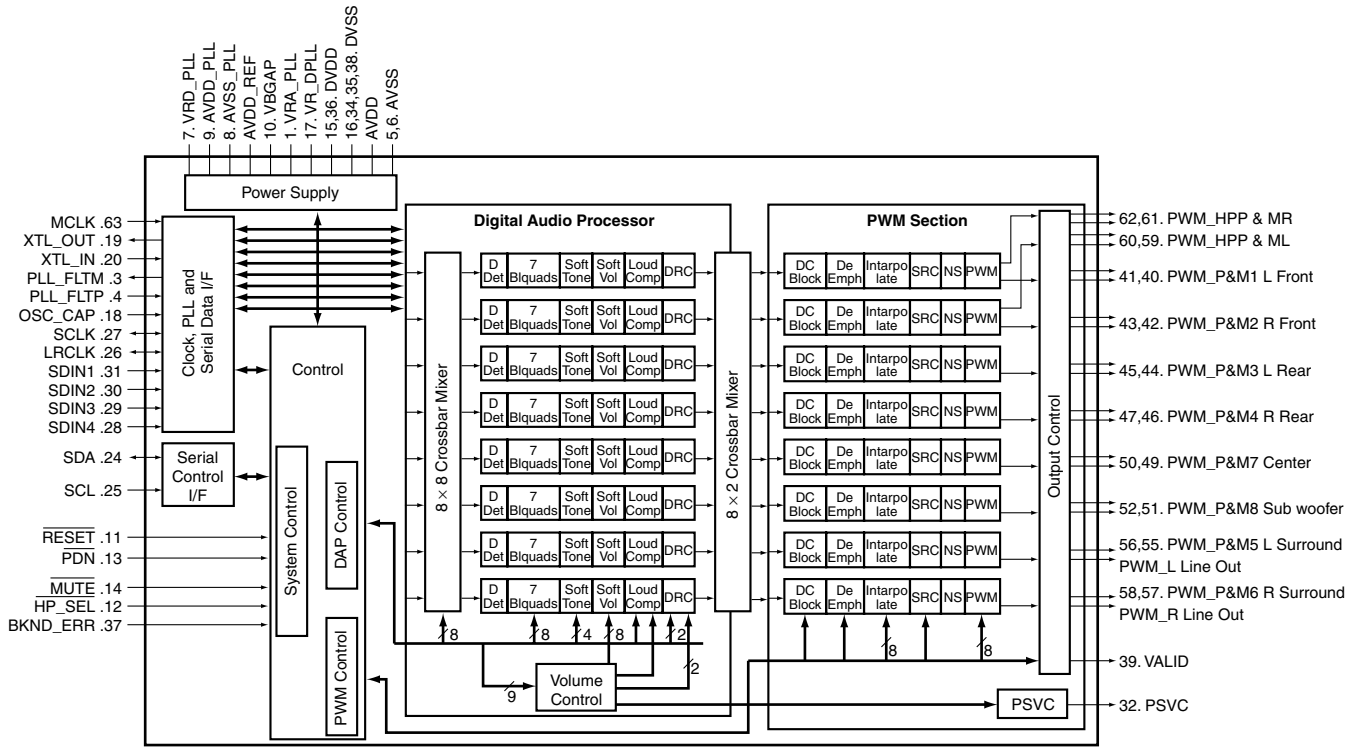
TAS5508APAG (MAIN ASSY : IC3101)

• 8 Channel Digital Audio PWM Processor

● Pin Arrangement (Top view)



● Block Diagram



● Pin Function

No.	Pin Name	I/O	Pin Function
1	VRA_PLL	–	Voltage reference for PLL analog supply 1.8V
2	PLL_FLT_RET	AO	PLL external filter return
3	PLL_FLTM	AO	PLL negative input
4	PLL_FLTP	AI	PLL positive input
5	AVSS	P	Analog ground
6	AVSS	P	Analog ground
7	VRD_PLL	P	Voltage reference for PLL digital supply 1.8V
8	AVSS_PLL	P	Analog ground for PLL
9	AVDD_PLL	P	3.3V analog power supply for PLL
10	VBGAP	P	Band gap voltage reference
11	$\overline{\text{RESET}}$	DI	System reset input, active low
12	$\overline{\text{HP\_SEL}}$	DI	Headphone input/output selector
13	PDN	DI	Power down, active low
14	$\overline{\text{MUTE}}$	DI	Soft mute of outputs, active low
15	DVDD	P	Digital power supply 3.3V supply for digital core and most of I/O buffers
16	DVSS	P	Digital ground for digital core and most of I/O buffers
17	VR_DPLL	P	Voltage reference for digital PLL supply 1.8V
18	OSC_CAP	AO	Oscillator capacitor
19	XTL_OUT	AO	XTL_OUT and XTL_IN are the only LVCMOS terminals on the device
20	XTL_IN	AI	XTL_OUT and XTL_IN are the only LVCMOS terminals on the device
21	RESERVED	–	Connect to digital ground
22	RESERVED	–	Connect to digital ground
23	RESERVED	–	Connect to digital ground
24	SDA	DIO	I^2C serial control data interface input/output
25	SCL	DI	I^2C serial control clock input/output
26	LRCLK	DI	Serial audio data left/right clock (sampling rate clock)
27	SCLK	DI	Serial audio data clock (shift clock)
28	SDIN4	DI	Serial audio data 4 input is one of the serial data input ports
29	SDIN3	DI	Serial audio data 3 input is one of the serial data input ports
30	SDIN2	DI	Serial audio data 2 input is one of the serial data input ports
31	SDIN1	DI	Serial audio data 1 input is one of the serial data input ports
32	PSVC	O	Power supply volume control PWM output
33	VR_DIG	P	Voltage reference for digital core supply 1.8V
34	DVSS	P	Digital ground
35	DVSS	P	Digital ground
36	DVDD	P	3.3V digital power supply
37	$\overline{\text{BKND\_ERR}}$	DI	Active low. A backend error sequence is generated by applying logic low to this terminal
38	DVSS	P	Digital ground
39	VALID	DO	Output indicating validity of PWM outputs active high
40	PWM_M_1	DO	PWM 1 output (differential –)
41	PWM_P_1	DO	PWM 1 output (differential +)
42	PWM_M_2	DO	PWM 2 output (differential –)
43	PWM_P_2	DO	PWM 2 output (differential +)
44	PWM_M_3	DO	PWM 3 output (differential –)
45	PWM_P_3	DO	PWM 3 output (differential +)
46	PWM_M_4	DO	PWM 4 output (differential –)
47	PWM_P_4	DO	PWM 4 output (differential +)
48	VR_PWM	P	Voltage reference for digital PWM core supply 1.8V
49	PWM_M_7	DO	PWM 7 (Line out L) output (differential –)
50	PWM_P_7	DO	PWM 7 (Line out L) output (differential +)

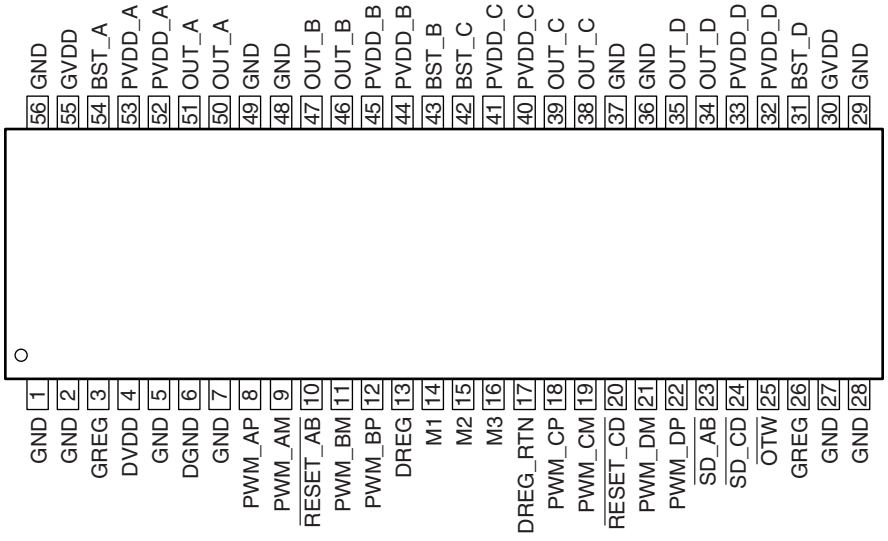
No.	Pin Name	I/O	Pin Function
51	PWM_M_8	DO	PWM 8 (Line out R) output (differential -)
52	PWM_P_8	DO	PWM 8 (Line out R) output (differential +)
53	DVSS_PWM	P	Digital ground for PWM
54	DVDD_PWM	P	3.3V digital power supply for PWM
55	PWM_M_5	DO	PWM 5 output (differentil -)
56	PWM_P_5	DO	PWM 5 output (differentil +)
57	PWM_M_6	DO	PWM 6 output (differentil -)
58	PWM_P_6	DO	PWM 6 output (differentil +)
59	PWM_HPML	DO	PWM left channel headphone (differential -)
60	PWM_HPPL	DO	PWM left channel headphone (differential +)
61	PWM_HPMR	DO	PWM right channel headphone (differential -)
62	PWM_HPPR	DO	PWM right channel headphone (differential +)
63	MCLK	DI	MCLK is a 3.3V clock master clock input
64	RESERVED	–	Connect to digital ground

Note of types : A = analog, D = 3.3V digital, P = power/ground/decoupling, I = input, O = output

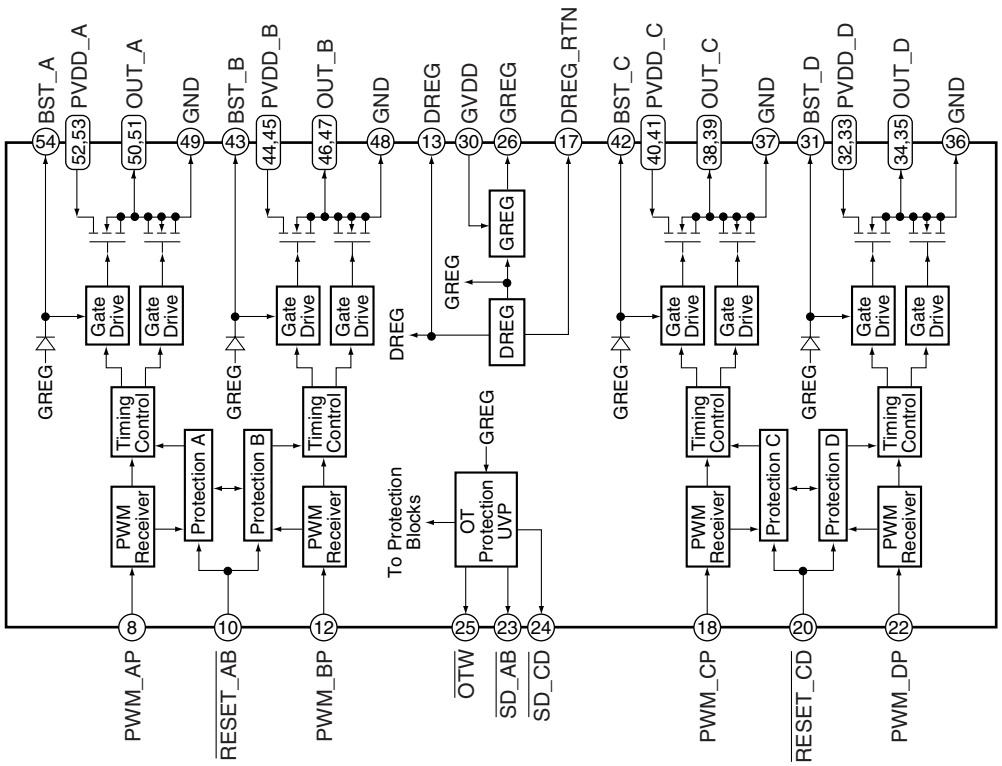
■ TAS5122ADCA (MAIN ASSY : IC3201, IC3301, IC3401)

• 50W Stereo Digital Amplifier

● Pin Arrangement (Top view)



● Block Diagram



● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	GND	–	Power ground	29	GND	–	Power ground
2	GND	–	Power ground	30	GVDD	–	Voltage supply to on-chip gate drive and digital supply voltage regulators
3	GREG	–	Gate drive voltage regulator decoupling pin, capacitor connected to REG_GND	31	BST_D	–	HS bootstrap supply (BST), external capacitor to OUT_D required
4	DVDD	–	I/O reference supply input (3.3V)	32	PVDD_D	–	Power supply input for half-bridge D
5	GND	–	Power ground	33	PVDD_D	–	Power supply input for half-bridge D
6	DGND	–	Digital I/O reference ground	34	OUT_D	O	Output, half-bridge D
7	GND	–	Power ground	35	OUT_D	O	Output, half-bridge D
8	PWM_AP	I	Input signal (positive), half-bridge A	36	GND	–	Power ground
9	PWM_AM	I	Input signal (negative), half-bridge A	37	GND	–	Power ground
10	$\overline{\text{RESET\_AB}}$	I	Reset signal, active low	38	OUT_C	O	Output, half-bridge C
11	PWM_BM	I	Input signal (negative), half-bridge B	39	OUT_C	O	Output, half-bridge C
12	PWM_BP	I	Input signal (positive), half-bridge B	40	PVDD_C	–	Power supply input for half-bridge C
13	DREG	–	Digital supply voltage regulator decoupling pin, capacitor connected to GND	41	PVDD_C	–	Power supply input for half-bridge C
14	M1	I	Mode selection pin	42	BST_C	–	HS bootstrap supply (BST), external capacitor to OUT_C required
15	M2	I	Mode selection pin	43	BST_B	–	HS bootstrap supply (BST), external capacitor to OUT_B required
16	M3	I	Mode selection pin	44	PVDD_B	–	Power supply input for half-bridge B
17	DREG_RTN	–	Digital supply voltage regulator decoupling return pin	45	PVDD_B	–	Power supply input for half-bridge B
18	PWM_CP	I	Input signal (positive), half-bridge C	46	OUT_B	O	Output, half-bridge B
19	PWM_CM	I	Input signal (negative), half-bridge C	47	OUT_B	O	Output, half-bridge B
20	$\overline{\text{RESET\_CD}}$	I	Reset signal, active low	48	GND	–	Power ground
21	PWM_DM	I	Input signal (negative), half-bridge D	49	GND	–	Power ground
22	PWM_DP	I	Input signal (positive), half-bridge D	50	OUT_A	O	Output, half-bridge A
23	$\overline{\text{SD\_AB}}$	O	Shutdown signal for half-bridges A and B,active-low	51	OUT_A	O	Output, half-bridge A
24	$\overline{\text{SD\_CD}}$	O	Shutdown signal for half-bridges C and D,active-low	52	PVDD_A	–	Power supply input for half-bridge A
25	$\overline{\text{OTW}}$	O	Overtemperature warning output, open drain with internal pullup resistor	53	PVDD_A	–	Power supply input for half-bridge A
26	GREG	O	Gate drive voltage regulator decoupling pin, capacitor connected to REG_GND	54	BST_A	–	HS bootstrap supply (BST), external capacitor to OUT_A required
27	GND	–	Power ground	55	GVDD	I	Voltage supply to on-chip gate drive and digital supply voltage regulators
28	GND	–	Power ground	56	GND	–	Power ground

PDC128A (MAIN ASSY : IC5501)

• System Control Microcomputer

● Pin Function

No.	Mark	Pin Name	I/O	Pin Function
1	PA3/WR#		O	
2	PA4/RD#		O	
3	PA5/RS		O	
4	P70 / INT0 / T0LCP / AN8	PDNDET	I	Powerdown Detection
5	P71 / INT1 / T0HCP / AN9	P_ON	I	REMOCON 2 (Power On)
6	P72 / INT2 / T0IN	RDSCLK	I (O)	Clock input from RDS decoder (Interruption 2, without RDS : Low output)
7	P73 / INT3 / T0IN	REMOCON	I	REMOCON signal input (Interruption 3)
8	RES#	XRESET	I	Microcomputer reset input
9	XT1 / AN10	XT1	–	Subclock (connect to VDD when no use)
10	XT2 / AN11	XT2	–	Subclock (leave open when no use, and set the bit 6 of OCR SFR)
11	VSS1	VSS1	–	Ground
12	CF1	CF1	–	Main Clock (connect to VDD when no use)
13	CF2	CF2	–	Main Clock (leave open when no use)
14	VDD1	VDD1	–	Power supply
15	P80 / AN0	SIMUKE	I	Destination distinction input
16	P81 / AN1	MODEL	I	Model distinction input
17	P82 / AN2		O	
18	P83 / AN3		O	
19	P84 / AN4	KEY2	I	Key2 input
20	P85 / AN5		O	
21	P86 / AN6	PCONFIG	I	POWER CONFIG INPUT
22	P87 / AN7	XPROTECT	I	Protection and Fan Error detection input
23	P10/SO0	DSPDI	O	Data output to DSP (MOTOROLA) and DIR
24	P11 / SI0 / SB0	DSPDO	I	Data input from DSP (MOTOROLA)
25	P12 / SCK0	DSPCK	O	Clock output to DSP (MOTOROLA) and DIR
26	P13 / SO1		O	
27	P14 / SI1 / SB1	DASDA	I (O)	I2C data for D-AMP
28	P15 / SCK1	DASCK	O	I2C clock for D-AMP
29	P16/T1PWML		O	
30	P17/T1PWMH/BUZ		O	
31	PE0		O	
32	PE1		O	
33	PE2	ADMD	O	Control of DSPMUTE combining DIRERR., "H" at digital mode, "L" at analog mode.
34	PE3		O	
35	PE4	XDSPMUTE	O	MUTE requeat to DSP MODULE
36	PE5	(LED)	O	Control for subwoofer mix
37	PE6	XDEC MUTE	I	Detection of 1stDSP boot success from DSP MODULE
38	PE7	DSPHREQ	I	Error detection from DSP(MOTOROLA)
39	VSS4	VSS4	–	Ground
40	VDD4	VDD4	–	Power supply

No.	Mark	Pin Name	I/O	Pin Function
41	PF0		O	
42	PF1		O	
43	PF2	STEST	I	Set TESTMODE for Service
44	PF3	UTEST	I	Set UNITCHECK for checker
45	PF4	XDSPSS	O	Slave selection to DSP(MOTOROLA)
46	PF5	XDSPRST	O	RESET to DSP(MOTOROLA) MODULE
47	PF6		O	
48	PF7		O	
49	SI2P0/SO2	FLDAT	O	Data for FL driver (serial data input)
50	SI2P1/SI2/SB2	XFLCS	O	Chip enable for FL driver
51	SI2P2/SCK2	FLCLK	O	Clock for FL driver
52	SI2P3/SCK20	TXCE	O	Chip enable for tuner LSI
53	PWM1		O	
54	PWM0		O	
55	VDD2	VDD2	–	Power supply
56	VSS2	VSS2	–	Ground
57	P00	EEP_CS	O	EEPROM CHIP SELECT
58	P01	EEP_DO	O	EEPROM DATA OUT
59	P02		O	
60	P03	EEP_SK	O	EEPROM CLOCK
61	P04	TXCLK	O	Clock for tuner LSI
62	P05	TXODATA	O	Data for tuner LSI
63	P06		O	
64	P07	RDSPOW	O	Control power supply of RDS (L: POWER ON)
65	P20/INT4/T1IN	RDSDATA	I (O)	Input RDS data
66	P21/INT4/T1IN	TXIDATA	I	Input data from tuner LSI
67	P22/INT4/T1IN	DIRERR	I	LOCK/UNLOCK from DIR
68	P23/INT4/T1IN	EEP_DI	I	EEPROM DATA IN
69	P24/INT5/T1IN	KEY1	I	Key1 input (PowerOn/Standby key only)
70	P25/INT5/T1IN	XDARST	O	RESET for D-AMP
71	P26/INT5/T1IN	XDAPDN	O	POWER DOWN for D-AMP
72	P27/INT5/T1IN	XDAMUTE	O	D-AMP MUTE
73	P30	(PSVC)	O	Power Supply Voltage Control
74	P31	DIGSEL	O	DIGITAL INPUT SELECT
75	P32	INPUTSELA	O	AUDIO INPUT SELECT
76	P33	XADPDN	O	POWER DOWN for A/D
77	P34	SHUTDWN	I	D-AMP SHUTDOWN detection
78	P35	(DCDET)	I	D-AMP DC detection
79	P36	XOTW	I	D-AMP Over Temperature Warning
80	PB7/D7	(FREQCONT1)	O	Frequency control1 for SMPS

No.	Mark	Pin Name	I/O	Pin Function
81	PB6/D6	(FREQCONT2)	O	Frequency control2 for SMPS
82	PB5/D5	(PWRERR)	I	POWER Error input from SMPS
83	PB4/D4	(PWRCONT1)	O	Power control for SMPS
84	PB3/D3	PWRCONT2	O	Power control for Sub SMPS
85	PB2/D2	FLCONT	O	FL Power
86	PB1/D1	BEATCUT1	O	BEATCUT Control 1
87	PB0/D0	BEATCUT2	O	BEATCUT Control 2
88	VSS3	VSS3	–	Ground
89	VDD3	VDD3	–	Power supply
90	PC7/A7	FLASHE/D	I	for FLASH writing / On board debugger
91	PC6/A6	FLASHDO	O	for FLASH writing / On board debugger
92	PC5/A5	FLASHCLK	O	for FLASH writing / On board debugger
93	PC4/A4	(SWMIX)	O	Control for subwoofer mix
94	PC3/A3	TXPOWER	O	Control power supply of Tuner etc.
95	PC2/A2	(DMUTECHECK)	O	D-AMP SOFT MUTE MONITOR
96	PC1/A1	FANCONT	O	Control fan speed
97	PC0/A0	(DTSMIX)	O	Control for dts mix
98	PA0/CS2#	XDIRRST	O	Reset to DIR /CODEC
99	PA1/CS1#	XDIRCS	O	Chip select to DIR/CODEC
100	PA2/CS0#	DIRDO	I	Data input from DIR/CODEC

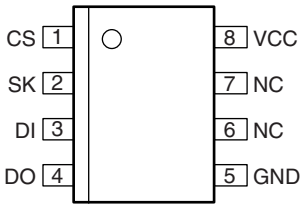
- Port0 (P00-P07) can be selected for input or output by each 4 bits (P00-P03,P04-P07). Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- Port1 (P10-P17) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1bit in option.
- Port2 (P20-P27) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- Port3 (P30-P36) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- Port7 (P70-P73) can be selected for input or output by each 1 bit. Set for input when reset.
- Port8 (P80-P87) can be selected for input or output by each 1 bit. Set for input when reset.
- PortA (PA0-PA5) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- PortB (PB0-PB7) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- PortC (PC0-PC7) can be selected for input or output by each 1 bit. Set for input when reset. And it can be set C-MOS or Nch-OD by each 1 bit in option.
- PortE and PortF can be selected for input or output by each 2 bits.

- In case of without RDS, it is best that RDSDATA and RDSCLK are assigned as I/O port which can be set output and output low level.

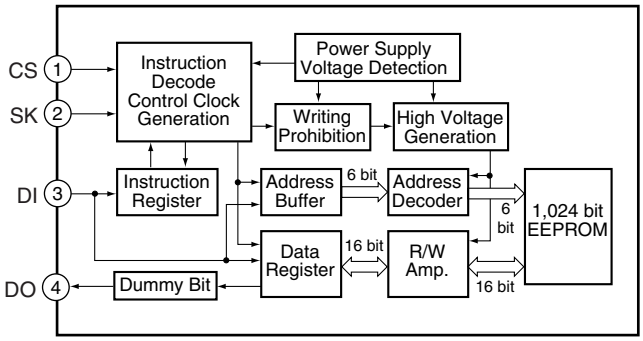
■ BR93L46RFJ-W (MAIN ASSY : IC5503)

• 64 × 16 bit EEPROM

● Pin Arrangement (Top view)



● Block Diagram



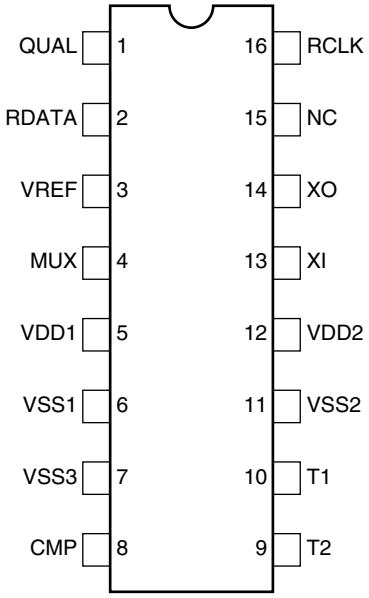
● Pin Function

No.	Pin Name	I/O	Pin Function
1	CS	I	Chip select input
2	SK	I	Serial clock input
3	DI	I	Start bit, OP code, address and serial data inputs
4	DO	O	Serial data output and READY/$\overline{\text{BUSY}}$ internal state display output
5	GND	–	Ground
6	NC	–	Non connection
7	NC	–	Non connection
8	VCC	–	Power supply

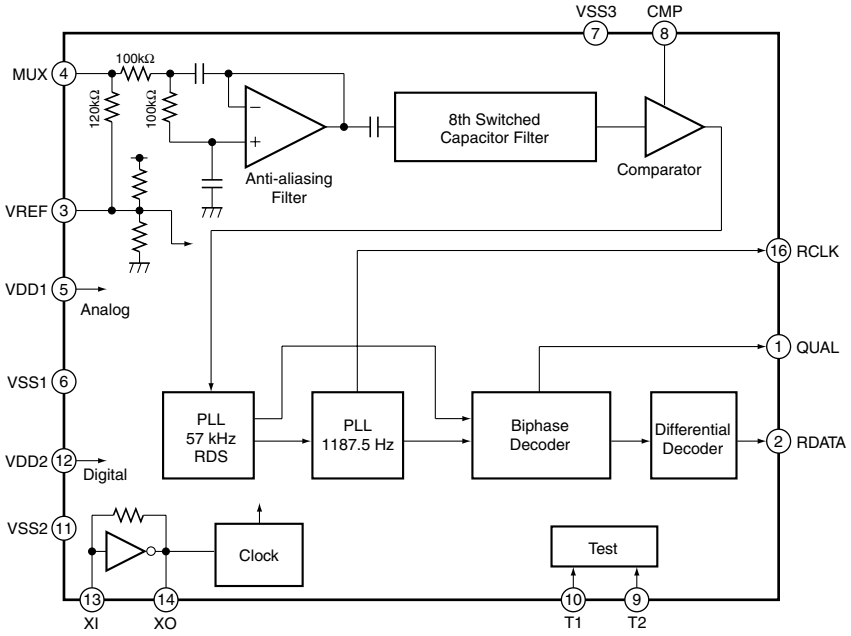
BU1924FS (MAIN ASSY : IC5701)(SX-SW77 and SX-SW55 only)

• RDS Demodulator

● Pin Arrangement



● Block Diagram



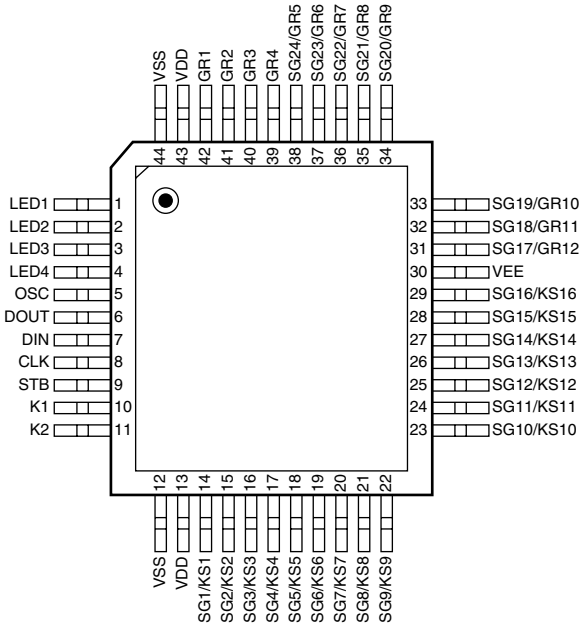
● Pin Function

No.	Pin Name	Pin Function
1	QUAL	Output signal quality
2	RDATA	Data
3	VREF	Refference
4	MUX	Composite signal input
5	VDD1	Analog power supply
6	VSS1	
7	VSS3	
8	CMP	Comparator
9	T2	Test input
10	T1	
11	VSS2	Digital power supply
12	VDD2	
13	XI	Crystal OSC
14	XO	
15	NC	Non connection
16	RCLK	Clock

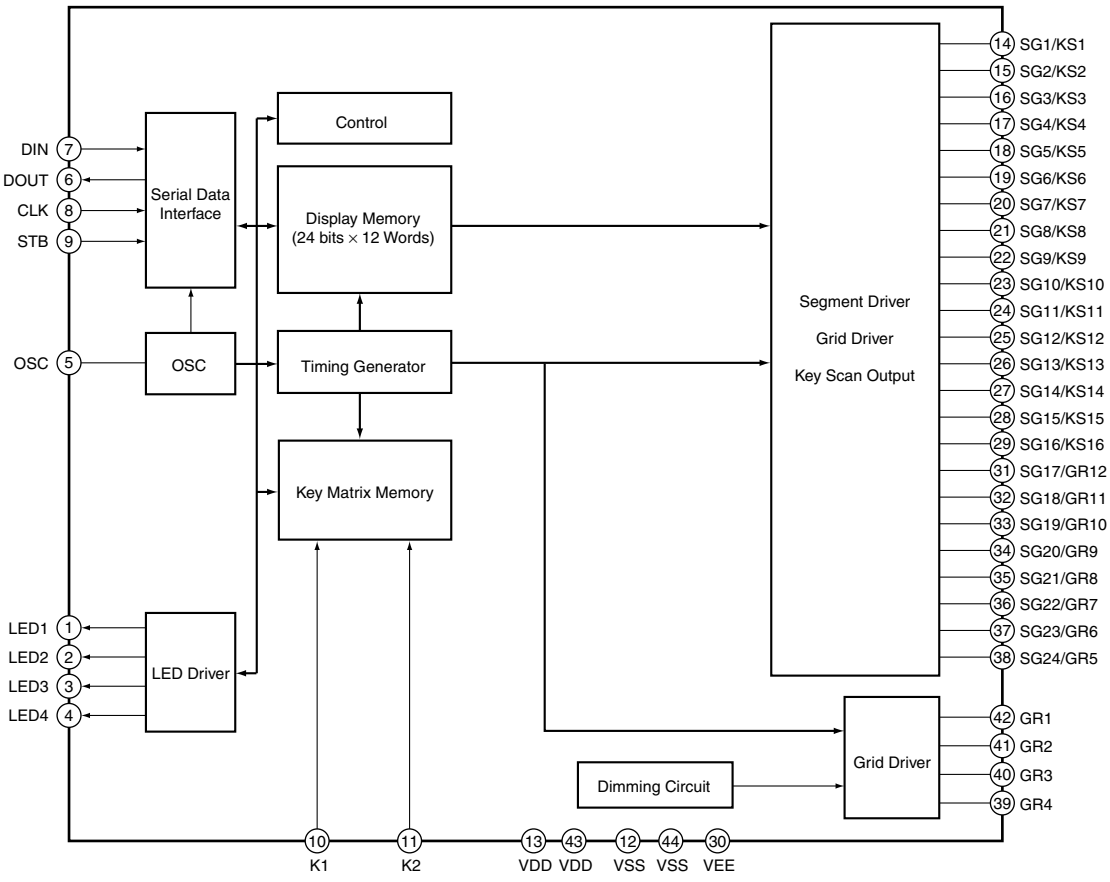
■ PT6315 (FL ASSY : IC5901)

• FL Driver IC

● Pin Arrangement



● Block Diagram

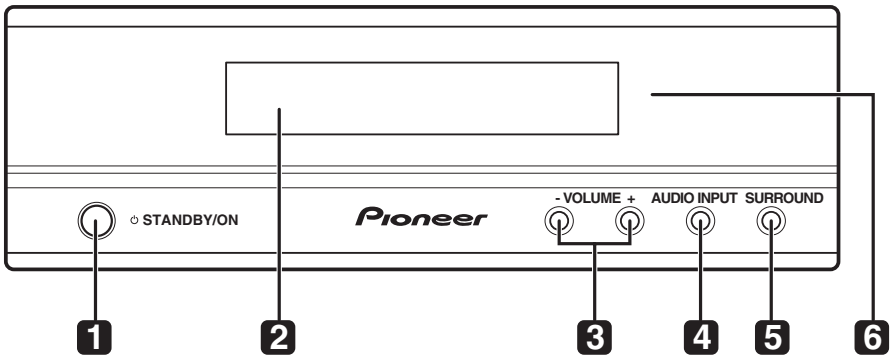


● Pin Function

No.	Pin Name	I/O	Pin Function
1	LED1	O	LED output pin
2	LED2		
3	LED3		
4	LED4		
5	OSC	I	Oscillator input pin
6	DOUT	O	Data output pin
7	DIN	I	Data input pin
8	CLK	I	Clock input pin
9	STB	I	Serial interface strobe pin
10	K1	I	Key data input pin
11	K2		
12	VSS	–	Logic ground pin
13	VDD	–	Logic power supply
14	SG1/KS1	O	High-voltage segment output pin
15	SG2/KS2		
16	SG3/KS3		
17	SG4/KS4		
18	SG5/KS5		
19	SG6/KS6		
20	SG7/KS7		
21	SG8/KS8		
22	SG9/KS9		
23	SG10/KS10		
24	SG11/KS11		
25	SG12/KS12		
26	SG13/KS13		
27	SG14/KS14		
28	SG15/KS15		
29	SG16/KS16		
30	VEE	–	Pull-down level
31	SG17/GR12	O	High-voltage segment / Grid output pin
32	SG18/GR11		
33	SG19/GR10		
34	SG20/GR9		
35	SG21/GR8		
36	SG22/GR7		
37	SG23/GR6		
38	SG24/GR5		
39	GR4	O	High-voltage grid output pin
40	GR3		
41	GR2		
42	GR1		
43	VDD	–	Logic power supply
44	VSS	–	Logic ground pin

8. PANEL FACILITIES

Display unit



1 ⏻ STANDBY/ON
Press to switch the system on/into standby.

2 Front panel display
See below for details.

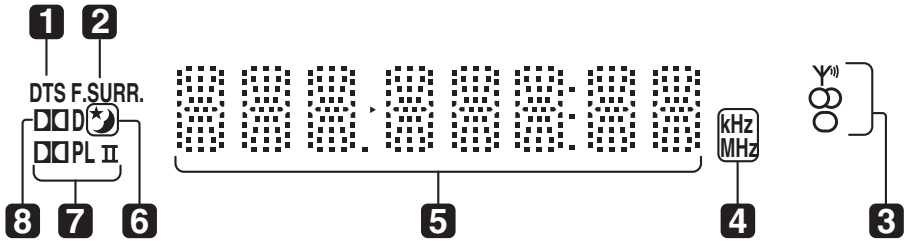
3 VOLUME buttons
Use to adjust the volume.

4 AUDIO INPUT
Press repeatedly to select one of the external audio inputs (**DVD/DVR1**, **DVD/DVR2**, **DIGITAL** or **ANALOG**).

5 SURROUND
Use to select a Surround mode .

6 IR remote sensor

Display



1 DTS
Lights during playback of a DTS source.

2 F.SURR.
Lights when the Front Surround listening mode is selected.

3 Tuner indicators
- ⋎ - Lights when a broadcast is being received.
- ⊙ - Lights when a stereo FM broadcast is being received in auto stereo mode.
- ○ - Lights when FM mono reception is selected.

4 kHz / MHz
Indicates the frequency unit shown in the character display (**kHz** for AM, **MHz** for FM).

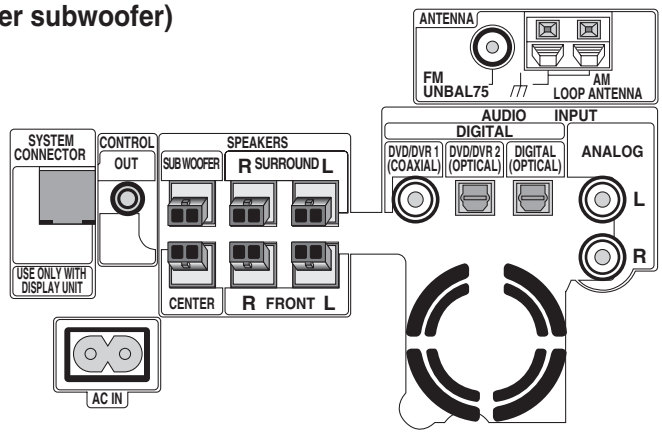
5 Character display

6 ☽
Lights when sleep timer is active.

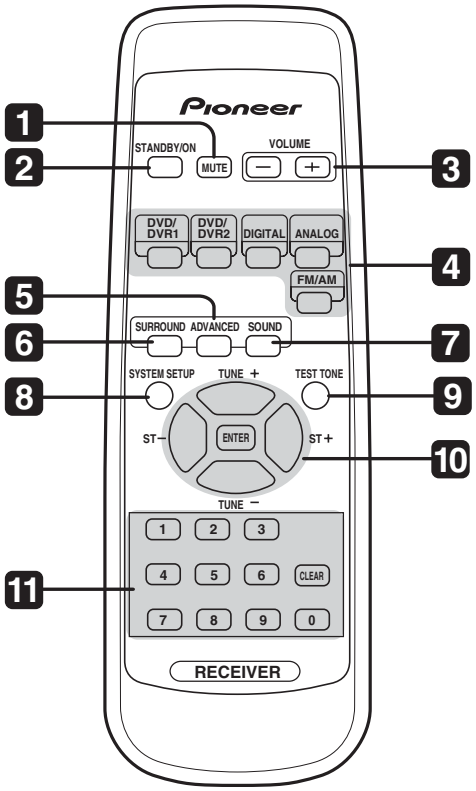
7 PL II
Lights during Dolby Pro Logic II decoding.

8 D
Lights during playback of a Dolby Digital source.

Rear Panel (Receiver subwoofer)



Remote Control (SX-SW100)



1 MUTE
Press to mute all audio from the speakers. Press again to cancel and restore the sound.

2 ⏻ STANDBY/ON
Press to switch the receiver on or into standby.

3 VOLUME +/–
Use to adjust the volume.

4 Function select buttons

DVD/DVR 1
Press to select the receiver subwooferís **DVD/DVR 1** digital audio input.

DVD/DVR 2
Press to select the receiver subwooferís **DVD/DVR 2** digital audio input.

DIGITAL
Press to select the receiver subwooferís **DIGITAL** audio input.

ANALOG
Press to select the receiver subwooferís **ANALOG** audio inputs.

FM/AM
Press to select the built-in radio tuner.

5 ADVANCED
Use to select an Advanced Surround mode or Front Surround mode.

6 SURROUND
Use to select a Surround mode.

7 SOUND
Press to access the sound menu, from which you can adjust bass and treble, etc.

8 SYSTEM SETUP
Use to access the menu system for surround sound setup, tuner settings and so on.

9 TEST TONE
Use to output the test tone (for speaker setup) .

10 ⬆/⬇/⬅/➡ (cursor buttons) and ENTER
Use to navigate the receiver subwoofer menus.
Press **ENTER** to selects.

11 Numeric buttons and CLEAR
Use the number buttons to select tuner station press.
Use **CLEAR** to clear an entry and start again.

A

B

C

D

E

F

■ Jigs list

Name	Jig No.	Remarks
Speaker Cable with terminal	SDS1174 (FL/WHITE) SDS1175 (FR/RED), SDS1176 (SL/BLUE) SDS1177 (SR/GRAY), SDS1178 (C/GREEN)	For checking audio at the SP terminal

■ CLEANING

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008